



INTERNATIONAL QL REPORT

The Definitive Information Source

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ExeQtor



COWO ELECTRONICS

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15 Kilburn Court, Newport, Rhode Island, USA 02840

A Quantum Leap in QL Wordprocessing

We are proud to present our new state-of-the-art wordprocessor, text87plus4. After a long period of development leading to its first release, and another four months spent incorporating users' suggestions, the definitive, optimised version 3 of plus4 is ready. plus4 is not just an improved version of the original text87; it is a complete rewrite from scratch. Recent technology advances have allowed us to develop a program which is MILES ahead of any QL application. We have kept the technology of the original text87, including our state-of-the-art series of printer drivers which exceed the capabilities of the latest PC wordprocessors.

text⁸⁷ plus4

+1 USER FRIENDLY TO THE EXTREME

You will hardly ever need our new well-written manual. An automatic setup and installation program allows you to select a suitable driver for your printer and copies all the necessary files to your disk. Run plus4 and a menu allows you to load a file or start a new one. An extra line of instructions and another line containing the current setting are displayed. Press <F1> and a window offers more help related to the menu options (context-sensitive). If you select Load you do not have to remember the file name; just press <UP> or <DOWN> for a list. Use the same keys to select the file that you wish and press <ENTER>.

This user-friendly command system governs the program in every area. Extensive context-sensitive help is only an <F1> away. No need to type in file-names, etc. If the program can offer a list in a selector box. Commands and key-presses are highly compatible with those used in Quill and function keys perform the same operations.

+2 THE MOST POWERFUL QL WP

Plus4 provides all the navigation and editing facilities you would expect and a lot more. Extensive editing facilities include cursor move (by character, word, line, paragraph, screen, page) erase (by character, word, line) block operations (copy, move, delete) goto (line, page, top, bottom, section, block). Insert and overwrite modes. Very fast search and replace backwards and forwards, case dependent and independent. Special characters include hard-space, hyphenation, hard and soft hyphens. In operation plus4 reformats the text as you edit and preserves the format of each paragraph no matter how many different formats you use in your text. Everything is automatic.

As a Quill user you would naturally expect your wordprocessor to remember different tab and margin settings for a document. You would expect to freely add to old texts without having to bother about those settings over and over again. Not surprisingly, text87 is the only other QL program that supports this important, user friendly feature of Quill.

File Operations include load, save, merge, block save (in plain ASCII or as fully formatted document) import (Quill files retaining bold, underlined, etc. or any other file, including those exported from Archive and Abacus or from other programs). The combination of all these powerful commands enables you to move text from one document to another effortlessly.

Integrated Spell Checker displays selector boxes for browsing the dictionary and automatic replacement of the selected word. This is automatically capitalised if the original began with a capital. Choose between large (over 210,000 words) and small English dictionaries or French or German (all supplied with the program). You can add any word in your text to the dictionary by just pressing a key. Your word lists can be saved and loaded at will or added to the dictionary on a permanent basis. (You can actually edit the dictionaries to your requirements).

Multi-Window Multi-Document plus4 goes far beyond multi-tasking. With one copy of plus4 up to 8 document windows can be open simultaneously. Up to 8 files can be on screen and more than one window can be open over a document so that you can edit the text while looking at a different part of it or at a different document. Resize, Zoom, Tile and Stack commands allow you to arrange the windows manually or automatically and switch instantly between them.

Page-Preview and Pagination Page and column ends are constantly displayed on the screen. plus4 takes into account all the changes of line spacing (you can fine tune the line spacing in different parts of the text between 0 and more than 1 inch). The Page preview command shows your text in full A4 (and other size) pages. Each word is represented by a rectangle, giving a realistic picture of the printed page before you commit the text to paper. This command alone will save you a lot of time and effort.

+3 UNRIVALLED PRINT QUALITY

In text and character formatting, text87plus4 is miles ahead of the so-called competition. Simply, no other QL program can produce similar results. Used with the appropriate printer-driver, text87plus4 can utilise the different fonts and character sizes built into modern printers. It fully supports proportional spacing (such as used for this text) and justifies correctly. You can use any combination of small and large fonts on the same line and be assured of a perfect printed result. You can set up multiple paragraph formats with different margins and line-spacing for each. You can use any combination of ordinary tabs with right, centre and decimal tabs in each line of text. You can also format the page the way you want, using several columns plus headers and footers. For desktop publishing, you can use several different page layouts in the same document.

WYSIWYG (what you see is what you get—pronounced wizzy-wig) Years ago this word referred to the absence of printer control codes from the screen. It is now used to distinguish word-processors which display different amounts of line-spacing and different character sizes and styles (e.g. double width, proportional). text87plus4 is the only QL wordprocessor that can be called WYSIWYG by current standards.

+4 FASTEST QL WORDPROCESSOR

Figures speak for themselves. We tested text87plus4 on a QL with memory expansion and disk-drive and on an Atari ST with QL emulator. A 70 page text of over 24,000 words and 141,000 characters was used for these tests. Load document: 25s (STQL 17s). Save document: 37s (STQL 32s). Automatic search and replace (includes automatic reformat of modified text) 580 instances: 43s (STQL 14s). Change justification from full justified to left justified or back: less than 2s (STQL 1s). Change right margin from 66 to 72 units and reformat whole document: 65s (STQL 17s). Move block of 10 pages from top to bottom (including manual marking and positioning): 35s (STQL 15s). Scroll the whole screen over text line-by-line (either up or down) 100 lines: 19s (STQL 5s).

plus4 is supplied with over 30 ready-made printer drivers supporting 9pin and daisywheel printers. Extra drivers for 24pin, Bubblejet, Deskjet and laser printers support the resident letter-quality fonts built into the printer. All our drivers come with predefined translates for QL's extended character set.

plus4 is fully compatible with all QL roms. Gold Card, ST QL, etc. Requires disk drive and 256K memory.

Prices (inclusive of Air Mail to overseas)

text87plus4	£ 79.00
upgrade to plus4 from v. 3.00 (last chance)	£ 39.00
2488 drivers for 24pin and Bubblejet printers	£ 19.00
typeset90-deskjet drivers for all HP Deskjets	£ 19.00
typeset90-Epson GQ3500/5000, EPL4100 /7100 lasers	£ 39.00
fonttext88 + fonttext89	£ 39.00
Graphic driver for 9 & 24-pin printers with over 30 fonts	

EDITORIAL

NEWPORT, RHODE ISLAND, USA - THE EDITORIAL STAFF

An interesting piece of mail arrived recently, it was a disk version of DILWYN JONES COMPUTING catalog. We thought it a novel way to deliver a catalog, as a matter of fact we like it so much, that we are willing to pass it on to anyone who sends a formatted disk and postage cost. We would encourage other dealers to follow Dilwyn's lead.

As of press time nothing new has arrived from Miracle Systems concerning their three NEW products, please note the article "MIRACLE WATCH" in this issue.

IQLR has arranged with QLEA to offer a group buy for their popular ROM-SWITCH, and at a 20% discount. You can choose either the internal or external version (we recomend the external version for most applications, unless you have PC boxed your QL). All orders must be placed thru IQLR, (we must order a minimum 10 units to receive the 20% discount) we will then pass on the payment and shipping instructions to QLEA. Credit cards are accepted, for additional information note QLEA's advert in this issue, to order contact Bob Dyl at IQLR (401 849 3805).

The picture on the front cover of this issue is of the ExeQtor system produced by COWO Electronics. An earlier issue of IQLR provided specifications and details of this system, but we did not have a good photograph at the time and thought you might enjoy seeing it.

In a similar vein, an article in the next IQLR will deal with how I boxed my QL and built a computer center. It has just recently come to my attention that although many people would like to re-box their QLs and include their peripheral devices, many people would like a little guidance on how to get started.

In Volume 2 Issue 2 there was a review of the very addictive game LONELY JOKER from Jochen Merz Software. In it, a challenge was issued for someone to beat my time (2 minutes 49 seconds), not only was it beaten,...it was utterly destroyed by MEGAN ARSENAULT (1 minute 21 seconds). Well done !!! Even Jochen Merz hasn't broken the 2 minute barrier.

As we approach the end of our second year of publication, we'd like to thank you, our readers for your overwhelming support and encouragement. IQLR is now read in 29 different countries, and our subscription base has grown by leaps and bounds.

We would like to announce at this time, that IQLR will continue to be published for the next two years (after which, we'll decide whether to commit for another two years). With your help (encourage your friends to subscribe to IQLR), we'll attempt to improve our magazine, while maintaining our record of "NEVER MISSING AN ISSUE" and "NEVER BEING LATE WITH AN ISSUE".

Over the past two years, IQLR has been searching for its place in the sun. In our first year we averaged 15 pages per issue. To this point into our second year we've averaged 40 pages per issue. Many of you have expressed approval of our current size, and believe as we do, that between 30 and 46 pages is a good range for IQLR to be published in (as always, dependent upon the material available).

EDITORIAL - cont'd

Many of you have suggested improvements to IQLR which we instituted quite quickly, in this vain we would like to thank; DILWYN JONES of Great Britain, FRANZ HERRMANN of Germany, FRANK DAVIS of the USA, and DICK TAYLOR of the USA.

We've heard from quite a number of QL purists, who, while liking the quality of IQLR would be happier if it were generated using the QL. We agree with you. Starting with Volume 3 Issue 1 we will be using TEXT87 PLUS4 to generate the text of IQLR. Our heart felt thanks go to FRED TOUSSI of SOFTWARE87, who has supplied us with the latest version of TEXT87 PLUS4 and the proper printer drives, required to maintain our level of quality.

Our subscription rates for Volume 3 of IQLR (which takes into account the recent changes in the international currency markets) is as follows: \$18.00 per year for the US, \$21.00 per year for Canada, \$38.00 per year for Australia and New Zealand, and \$32.00 per year for the rest of the world. Subscription rates quoted are US FUNDS. As always, we accept DM and £ bank notes (currency) equivalent to the US \$ amount. Please note: when sending currency, always request a signed receipt upon delivery (offered by most Postal Services). For European subscribers using currency the cost is: DM 50 per year, or £20 per year.

As is our custom, we offer an early RENEWAL discount. The discounted rates are as follows: \$16.00 for the US, \$18.50 for Canada, \$35.00 for Australia and New Zealand, and \$30.00 for the rest of the world, or equivalent \$ amount in DM or £ To take advantage of the EARLY RENEWAL DISCOUNT, send in your subscription renewal by 15 February 1993.

MIRACLE WATCH

NEWPORT, RHODE ISLAND, USA - BOB DYLAN

Miracle Systems are about to launch three new products, the long awaited GRAPHICS CARD, the PC CARD, and a SCSI INTERFACE. The GRAPHICS CARD is much more than its name implies, in our last issue I stated that it was more like a new computer when married to the Gold Card. From the information I have, the Graphics Card will come in its own case, have its own power supply, and there will be slots for two 3.5" disk drives. It will have a Serial Port, a Parallel Port, an SCSI Interface, contain its own operating system (believed to be Tony Tebby's SMS-2), and will have switchable modes between VGA and RGB display. It will REQUIRE a Gold Card.

THE PC CARD will allow owners of AT and newer PC's to emulate the QL. We believe it to have a 68000 or 68030 processor and its own memory, and most likely will be running SMS-2 as its operating system.

The SCSI INTERFACE will be available for the standard QL, and should allow you to connect SCSI devices to your QL (harddisks, etc.).

Miracle Systems has assured IQLR of delivery of all three NEW products as soon as they become available, and they have graciously agreed to a GROUP BUY of all three products thru IQLR (similar to the group buy organized by us for the Gold Card).

NASA Computing

Nerheim, N - 5580 OLEN Norway

Terms of Payment

All our products are delivered with laser printed manual in English, and the software is only available on 3.5" disks. All prices include first class AIR MAIL world wide. Allow up to 3 days for delivery.

Payment in cash or cheque. Cheques should be in NOK (not foreign currency, please) drawn on a Norwegian bank and made payable to P Monstad.

We are regularly updating our software, and upgrades are normally free of charge. If you need more information, please write for free product information.

Disk Mate

DM is a very powerful program which enables you to manage your files and disks in an easy manner. Unlike similar programs, DM is fully menu controlled, both when selecting files and commands. File names are listed in columns which are displayed in several pages.

One of the main advantages with DM is the possibility to write a directory back to the original disk. This is very useful, e.g. after you have sorted (descending or ascending, name, type, length, update date and dataspace), changed style (upper, lower and mixed) or grouped files. The group command is the most powerful found in any QL program. It enables you to collect files into groups. Up to 26 groups can be made in one operation, and every group can contain as many files as you want. Each group can be sorted etc. individually. When you are satisfied with the order of the file names on the screen, it is time to write the directory back. What you see on screen is what you get on disk if you use the "Write dir" command!

DM has a very powerful search-and-select routine. This routine enables you to use wildcard search, in the same manner as on the PC (? to replace an unknown character, and * to replace an unknown string). The files which then are selected (you can also select a file by selecting it manually with the cursor keys and enter or space) can be copied (very fast) deleted, renamed, printed to screen or printer, converted etc.

Only a few of the features in DM are mentioned here, and if you need more information, please write. The current version of DM (v3.20) will not work together with harddisks or level 2 sub-directories etc. but we are working on a new version which will run under the Pointer Environment. Disk Mate requires at least 512Kb of free RAM, Toolkit 2 and a disk station to run. Price: \$43.50 - £22.90 - DM 69.50 - NOK 265.00

Index Optimum

A brand new version of the program previously called Index. It has now been rewritten from scratch and the benefits are enormous!

So what can it do? Well, with Index Optimum you can create a database of all your files on your disks. Index Optimum then later gives you the possibility of searching a particular file, printing directories out, sorting, updating etc. No more need to search hours through your disk collection for a specific file - Index Optimum does it in seconds! Your directory file may hold up to 1024 disks, but of course nothing stops you from creating more than one directory file! It is extremely fast to create a directory file - takes about 10 seconds per disk, included the time you spend inserting/removing disks from the disk drive. The directory file may at any time be updated, and it still works in incredible speed! Automatic, dynamic memory reservation, which means that you don't need to enter a workspace or similar - everything is carefully catered for by Index Optimum, and it doesn't capture more memory than it needs to! You may create your directory file with or without filedates. If you create it with filedates, the date when the files were last updated is also viewed on screen when searching or printing! The directory file is automatically saved after any updates and also loads automatically when necessary - no need for the user to worry about that! Reads directories of disks in about one second! Printer facilities included! Runs under Pointer Environment, i.e. mouse controlled, but can easily be controlled from keyboard! Available from August/September 1992. Please write for more info.

Price: \$29.90 - £14.99 - DM 44.90 - NOK 175.00.

Dicey Business

A Football Strategy Game (Soccer) for The Sinclair QL and compatibles with at least 550Kb expanded RAM and 3.5" DD disk station. Some effects with Dicey Business:

* 4 divisions + non-league. * FA-Cup, League-Cup and European Cup. * Two games in one: Manager and Director - Choose yourself! * A-team and junior team. * Buying and selling players. * Records and statistics. * Players can get booked or sent-off during a match. * Transcriptions of tables and forms. * Sponsors. * Realistic attendances. * Economic report after each match. * The club can go bankrupt. * You may get sacked. * You may get job-offers from other clubs. * Penalty-shoot-out in the European Cup. * Injuries. * Results and tables from 4 divisions and results from all the cups. * Talent scout. * Loading and saving your team. * Over 350 Kilobytes with compiled SuperBASIC. * etc, etc...

No football skill is required to play Dicey Business. The menus in Dicey Business are very easy to use, either with the cursor keys or by direct key strokes. Dicey Business supports Epson compatible printers.

Dicey Business is supplied on disk together with a laser printed 14 pages manual.

Price: \$29.90 - £14.99 - DM 44.90 - NOK 175.00.

**MECHANICAL AFFINITY
CATERING TO THE SINCLAIR
COMMUNITY IN NORTH AMERICA**

With two locations to serve you and provide accessories for your Sinclair, Timex-Sinclair or Cambridge computer. To obtain our newest catalog for the QL, Z88, TS2068, or other Sinclair machines, please send a legal size, self-addressed stamped envelope to one of the two listed locations, or phone (evenings or weekends), the numbers given below.

Recently, due to increasing demand on your part, we have added memory, cable and some software for the Z88. We have brought back some old favorites for the TS2068, and have added quite a bit to our QL inventory.

For the QL we now carry the full line of software and hardware from JOCHEN MERZ SOFTWARE, DILWYN JONES COMPUTING, and DIGITAL PRECISION.

We also carry hardware from MIRACLE SYSTEMS for your QL.

**MECHANICAL AFFINITY
513 EAST MAIN STREET
PERU, IN 46970
317-473-8031**

OR

**MECHANICAL AFFINITY
5231 WILTON WOOD COURT
INDIANAPOLIS, IN 46254
317-291-6002**

We strongly support the idea of Sinclair users supporting the Sinclair machines and vendors. If there is a new product you are looking for, perhaps we can be of help. We just keep getting better the more we serve you and learn!

BANTER - A BANNER PROGRAM

HADDAM, CONNECTICUT, USA - ROY ARSENAULT

Some time ago, I was approached by my young daughter who wanted to produce banners on the QL. Unfortunately there was no easy way to do this and her request went unanswered. All that has now changed with a piece of software entitled "BANTER" which was written by Nick Ward and is available from DILWYN JONES COMPUTING.

BANTER will produce banners up to four pages wide on any EPSON compatible 9 or 24 pin printer. Up to five lines of varying sized text may be entered, the output is center justified and may be surrounded with a simple border.

The program requires 400k of memory and comes with a highly understandable eight page manual, although my daughter and I made several banners before we looked at the manual.

Other options/features include:

- Choice of eight fonts.
- On-screen banner review which also shows the number of pages to be used.
- Italics option.
- Multi- pass option.

After the program loads, an easy to use menu guides you through the process. After the menu selections have been made and prior to printing, an on-screen preview of the banner is displayed. This allows last minute editing or cancellation, if necessary.

BANTER is not only easy to use but also produces excellent results. I would recommend it as a good value (at only £ 25) to anyone interested in producing banners or with an interest in display software (*see Dilwyn Jones Computing advert in this issue for additional information*).

QUANTA LIBRARY

NEWPORT, RHODE ISLAND, USA - BOB DYL

As most of you know, the Quanta Library is one of the foremost collections of non-commercial QL software in the world. Quanta members can avail themselves of the library through a worldwide network of sub-librarians. Roy Brereton, Quanta's head librarian, has recently designated me a sub-librarian. This coupled with Dick Taylor's (our editor) distribution of the C-68 'C' compiler, will considerably enhance our ability to serve not only IQLR subscribers, but all North American QL users as well.

The Quanta Library is FREE to Quanta members; you can either supply the desired number of pre-formatted disks with the sufficient postage, or we can supply branded SONY disks, at cost plus postage. Presently I can only supply library disks on 3.5" media. If you need additional information, contact me at IQLR. Please Note: YOU MUST BE A CURRENT MEMBER OF QUANTA TO OBTAIN THE QUANTA LIBRARY DISKS. (*Ed. Note: If you are not a member of QUANTA, why not?*)

QUANTA LIBRARY - cont'd

QUANTA is by far the largest single group of QL users in the world and as such, is a resource no QL owner can afford to be without. Not only do you get access to the library and monthly newsletter, but also a vast array of technical knowledge and experience that you can tap).

Over the years the Quanta Library has experienced a number of reorganizations. I now have the latest version of the library, comprising 56 disks.

Following is a complete list of the library disks, along with the disk name, and the sectors used. A DIR on your QUANTA disks should provide a fairly reliable indication as to how current your copy is.

DISK NAME	SECTOR READING
CAD_1	312/1440
CT_1 (Communications)	39/1440
CT_2	429/1440
ED_1 (Education)	315/1440
KERMIT_1	99/1440
KERMIT_2	807/1440
KERMIT_3	348/1440
GG_1 (Games General)	72/1440
GG_2	357/1440
GG_3	669/1440
GS_1 (GamesStrategy)	08/1440
GS_2	105/1440
GS_3	72/1440
GS_4	471/1440
GRAF_1 (Graphics)	231/1440
GRAF_2	435/1440
LANG_1	78/1440
LIBGUIDE	1008/1440
MAND_1 (Mandelbrot)	38/1440
MAND_2	6/1440
MAND_3	12/1440
MATHS_1	162/1440
MATHS_2	831/1440
MD_1 (Misc. Demos)	345/1440
MD_2	96/1440
MD_3.	231/1440
PAGE_DESIGNER	45/1440
PF_1 (PrinterFonts)	267/1440
PF_2	222/1440
PF_3	138/1440
PSION_1	162/1440
PSION_2	348/1440
PSION_3	309/1440
PSION_4	828/1440

Please note: QDOS_JM1 and QDOS_JM2 are obsolete and have been replaced by new QDOS_JM3 and QDOS_JM4

QDOS_JM3	15/1440
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QUANTA LIBRARY - cont'd

QDOS_JM4	153/1440
QDOS_JS1	483/1440
SP_0 (Specials)	1032/1440
SP_1	15/1440
SP_2	246/1440
SP_3	360/1440
SP_4	318/1440
SP_5	330/1440
SP_6	561/1440
SP_7	567/1440
UD_1 (Dir and Copy Utilities)	519/1440
EMACS_1 MicroEMACS)	3/1440
EMACS_2	18/1440
UG_1 (GeneralUtilities)	129/1440
UG_2	36/1440
UG_3	129/1440
UG_4	174/1440
UG_5	75/1440
UG_6	1092/1440
UT_1 Toolkits-Machine Code Utilities)	204/1440
UT_2	861/1440

We will announce "Additions Disks" as they become available, and print an update to the listing, at least twice per year.

RAMDISK CORRECTION

BANGOR, GWYNEDD, GREAT BRITAIN - DILWYN JONES

An error occurred when I printed the RAM Disk article reproduced in the Nov/Dec 92 issue of IQLR. The following line was left out in the listing:

```
135 INPUT #3, t$ : INPUT #3, t$
```

The same line should also be repeated as line 225 to remove the medium name and capacity strings from the file before starting to copy the files. Sorry about that.

```
225 INPUT #3, t$ : INPUT #3, t$
```

NEWS FROM EUROPE

OCKENFELS, GERMANY - FRANZ HERRMANN

Two international QL meetings will be held soon in Europe, the first is the "4th Italian QL Meeting" organized by Ergon Development and QITALY Club it will be held at Reggio Emilia, Italy on the 24th of January 1993. The second meeting will be the "International QL Meeting" organized by the Dutch QL group SIN_QL_AIR which will be held at Eindhoven, Netherlands on the 27th of February 1992. I hope to be at both meetings, and if time permits, I'll write a report for IQLR readers.

NEWS - cont'd

The first terminal emulator with ZModem incorporated has been released for the QL. It's called QEM v2.00 from Jonathan Hudson of Oman. I hope to have this soon myself. (Ed. Note: IQLR has QEM v2.00 available for anyone desiring a copy).

According to Dave Walker (of C68 fame) GHOSTSCRIPT is running happily on the ST/QL with hard disk. It could possibly run on Gold Cards with ED drives, but surely hard disks. The fonts eat disk space in the megabytes, which is the main problem. (NOT YET RELEASED FOR THE QL).

Other projects currently being worked on by people here in Europe include: MAIL READERS for the major communications networks with QL activity (European), a decent SHELL for QDOS (will require Minerva according to the author), and even a large book on QL PROGRAMMING (in English). Dirk Steinkopf of the "SINCLAIR QL USER CLUB e.V." of Germany has recently released his HARD DISK driver QL-HD into the public domain and translated all manuals with details about the necessary hardware.

Ok, I have to get this printed before our little two month old dog bites the printer cable. He's biting into all my cables. Best wishes and continue IQLR.

BASIC CPORT - A REVIEW DIGITAL PRECISION, Ltd. EAST PROVIDENCE, RHODE ISLAND, USA - WILL HORTON

Up until now it has been "long time no C" for SuperBASIC programmers. But now through the aid of CPORT, SuperBASIC programmers can convert their code to C and take advantage of the speed and enhanced performance of compiled code.

CPORT was developed by Charles Dillon, and sells for \$179.00 U.S. Distribution is through Digital Precision in the U.K., and Mechanical Affinity in the U.S. This program comes on a single disk with a seven page manual. Two other items required but not included are: a text editor, and the C68 compiler.

In order to run CPORT simply boot up your QL with the CPORT disk in flp1, and either load a SuperBASIC program into the QL's interpreter or type the code in by hand. When you are ready to convert to C code, type, EXEC "flp1_CPORT", and the CPORT front panel will appear. The front panel will display twenty two windows allowing you to change such attributes as: default devices, file names, work space, and Lattice or ANSI C. Also if you are using a Minerva ROM the command "POKE \212,128" should be first invoked before using CPORT.

Navigation through the various windows is made easy, just use the cursor keys to select an option window, and then press the space bar to set the option. For easy reference, the instruction manual describes each option in detail.

It should be repeated here as it states in the instruction manual, that there is no "magic wand" component contained in CPORT. This means that SuperBASIC programs that do not work will not suddenly start working because they have been translated to C. It must also be stated that there will be times when a certain amount of massaging of the SuperBASIC and the translated C code is required.

CPORT - cont'd

When converting from SuperBASIC to C, we are dealing with a three phase operation: first CPORT converts the Basic Program to C source code, secondly CfiX is used to make adjustments to the C source code, and lastly C68 converts the C source code to executable code. It is important to distinguish between these three, to understand what each phase does and how to correct any problems with the translation.

My working with CPORT has shown me that highly structured top down SuperBASIC code translates the easiest into C source code. Basic programs infested with GOTO statements may be hard to translate, so try to clean up your basic code before you begin working with CPORT. Another tip is to identify the data type of each variable used in your Basic Program. C is called a "highly typed" language which means that each variable used must be declared as to its particular type, e.g. short integer, long integer, double precision, etc.

In order to aid CPORT in its translation to C code you must define your variables. CPORT lets you use a compiler directive called "IMPLICITx", which can be added to your SuperBASIC program to give CPORT an indication of how each variable is being used. Here is a full list of the IMPLICIT directives you can add to your SuperBASIC programs:

Type	Keyword
String	IMPLICIT\$
Double	IMPLICITD
Float	IMPLICITF
Long integer	IMPLICITL
Short integer	IMPLICIT%
Boolean	IMPLICITB
Character	IMPLICITC
Void	IMPLICITV

If a variable is being used as an integer counter such as in a FOR loop, "FOR n=1 TO 10", the variable "n" must be identified as an integer at the start of the program with the following directive: "IMPLICIT% n". Floating point variables are required for mathematical operations such as "y=sin(x)", where the directive "IMPLICITD x,y" would be used to indicate that they are double precision floating point numbers. All string variables should be dimensioned as follows:

```
DIM name$(80),  
name$= " ":name$="Hello"
```

By setting the string "name\$" equal to " " will avoid any confusion in CPORT's declaring the character string "name\$".

The importance of identifying each variable cannot be over emphasized. All of the major problems that I had in translating from SuperBASIC to C was that I did not have my variables properly identified. The errors that were listed did not make sense to me but I soon noticed that CPORT was indicating errors where an integer was not defined, or a string was not dimensioned. To aid the user, Digital Precision offers a program called XREF, which analyses your SuperBASIC program and gives a report on PROCEDURE, FUNCTION, and variable usage. Perhaps this program should have been included with

CPORT - cont'd

CPORT instead of being offered separately. However, it is offered to CPORT owners at discount price.

As a demonstration of CPORT view the SuperBASIC program listed below. After CPORT is booted this program can either be typed in or loaded from a floppy into the interpreter. This program has been designed to illuminate some of the high points required to convert from SuperBASIC to C code.

```
100 CLS
102 IMPLICIT% n
105 DIM mess$(100)
107 mess$=" "
110 mess$ = "CPORT Example"
120 r=0
130 FOR n=0 TO 10
140   r=r+10
150   CIRCLE #1, 30,70,r
160 END FOR n
170 CSIZE 2,1
180 PRINT mess$
```

As was mentioned earlier all of the data types must be identified. The integer value "n" has been identified with the statement "IMPLICIT% n". This tells CPORT to identify "n" as a short integer. Notice that I did not define the variable "r" to be of a floating point type, this is a default condition. However, I could have added the directive "IMPLICITF r" at the top of the program for completeness.

At this point CPORT is executed with the command "EXEC flp1_CPORT" and the SuperBASIC listing shown above is converted into two files onto whatever device you have chosen. The first file is the Header File which will have information about names and functions used, plus a list of library includes. The second is the C Source File which is the C Program that was created from the SuperBASIC listing shown above. The default names for the two files are: "test_h" and "test_c" respectively.

The next step is to run the C source file through CfiX to make a few adjustments to the C code. Type the command "EXEC flp1_CfiX" and a window will appear on the screen indicating you are in CfiX. Next press the key combination "ALT up arrow" which will display a selection of the items you would like to modify in your C code. The arrow keys allow you to move along the selections and the space bar allows you to change the selection.

Now press the enter key and CfiX begins its operation of modifying the C source code. The listing shown below is the converted SuperBASIC source file created by CPORT and modified by CfiX.

```
/*
   * Program : Test_c
   * Author :
   * Purpose :
   * Updated
   *
```

CPORT - cont'd

```
* CfiXed by CfiX V3.00 1992 Nov 29 13:21:52
* Warning...Do not re-CfiX this file
*/

#define prog_version "1.00"
#include "Test_h"
#include <cport.h>
#define mess_abl 1
    short n;
    float r;
    FILE* sb_channo[16];
    char mess[100+1-mess_abl+1];

void PROCedure main() {
    CP_Initialize();
    SB_Cls(FNO(1), 0);
/* ** DIM stmt deleted - may need to re-initialize array(s) */
/* DIM mess$(100) */
    strcpy(mess, " ");
    strcpy(mess, "CPORT Example");
    r = 0.0;
    for (n=0; n<=10; n++) {
        r += 10.0;
        SB_Circle(FNO(1), 30, 70, r);
    }
    SB_Csize(FNO(1), 2, 1);
    fprintf(FNO(1), "%s\n", mess);
    exit(0);
}

/* Cport: Translation done, 0 errors and 0 warnings. */
```

The first thing to look at is the way C defines its variables. Notice how "n" is defined to be a short integer with the command "short n;", and "r" is defined to be a floating point variable with the command "float r;". The character string "mess" is defined by the command "char mess[100+1-mess_abl +1];". Notice "mess_abl" is defined to be "1", this makes the array relative to zero, with an extra location for the line feed character.

If you examine the listing closely you can see the similarity with the SuperBASIC listing. Most of the SuperBASIC commands have been duplicated with their C counterpart with an "SB_X" type command. The command for the circle is now "SB_Circle(FNO(1), 30, 70, r);" the first argument is the channel number.

CPORT makes use of the standard C libraries plus the additional CPORT libraries included as part of the C68 Compiler.

Now that all files are setup the way C68 likes them to be, the next step is to look at the C68 compiler. At this point the "CPORTC68_doc" should be referred to. This document is located on the "C68 CPORT SUPPORT LIBRARIES" disk.

CPORT - cont'd

From the "C68 CPORT SUPPORT LIBRARIES" disk add the header file "cport_h" in the form "INCLUDE_cport_h", and the libraries "libcport_a" in the form "LIB_libcport_a" onto the C68 systems disk.

The C68 compiler is now ready to run and compile the C source code. If you are using Toolkit-II, flp1 can be configured as the program device, and flp2 can be configured as the data device. So with the C68 systems disk in "flp1_" and the C source code in "flp2_", the compilation will begin with the following line: `ex cc;test_c -lcport -lm`. The argument "-lcport" is used to link the CPORT libraries, and the argument "-lm" is used to link in the math libraries, since we are using floating point numbers.

After C68 compiles the code and links the appropriate commands we now have an executable program. If the compile fails then it is up to the operator to find the problem with the C code and then recompile. If a person is unfamiliar with the C Programming language it might be difficult to locate a problem that shows up in the C source listing. It was also noticed that several commands are missing from the C68 CPORT libraries, these pertain to graphics operations.

The amount of intervention required on the part of the operator is sometimes quite high when using CPORT. This would include programs using graphics and mathematical operations. But then again certain programs required no intervention at all. It takes some manipulation to go from a language that defaults all of its variables to floating point(SuperBASIC), to a language that requires all of its variables be explicitly defined(C). This is why it is important to identify the usage of each variable in your SuperBASIC program with the IMPLICITx directive.

There are certain advantages of converting existing SuperBASIC code to C. One of the most obvious would be speed, since compiled code will run faster than interpreted code (well, in most cases). Compiled code can also be multi-tasked. C also offers a wide variety of functions that can be added to your programs once they have been converted to C. As a final benefit, C programmers can now make use of CPORT to prototype with SuperBASIC and then convert that code into C.

As a final note, be sure and read all the documentation that is supplied with CPORT and the C68 Compiler. Also try the examples supplied with CPORT and review the code to get a feel of what is required for a successful conversion.

Editor's Note: Digital Precision does offer a package that includes the C-68 compiler, see one of their recent adverts to determine price.

SLOWGOLD REVIEWED **DILWYN JONES COMPUTING** **UTICA, MICHAGAN, USA - JOHN J. IMPELLIZZERI**

SlowGold is a set of routines used to slow the QL down. It was intended for Gold Card users but it also works on a standard QL. Why would anyone want to slow their QL and/or Gold Card down?!? Most software runs much better on a Gold Card equipped QL. The problem is that some programs were pretty quick on a standard QL and with the Gold Card become too fast. SlowGold is also handy as a debugging tool, with it you can slow a problem program down to a crawl allowing you to watch what it is or isn't doing.

SLOWGOLD - cont'd

The SlowGold package is distributed on disk with SlowGold 1, SlowGold 2, a Panel program and all needed extensions and runtimes. Also included, is an 8 page manual as a Quill _doc file.

The Gold Card has an internal command to slow it down (SLUG), and affects everything running in the QL. SlowGold 1 works similarly but it has 5 SuperBasic extensions to turn it on & off, change the slowdown factor as well as display the current slowdown factor. It is much easier to use and experiment with than the Gold Card's SLUG command.

SlowGold does not affect disk operations. If you save a file while the QL is running in a slow mode, it can still be read back while running at any other speed.

If you have more than one job running in the QL, SlowGold 1 will slow them all down. If that is not desirable, you need to use SlowGold 2. More about that later.

The Panel program will multitask. It co-exists happily with or without any other multitasking utilities and will operate under the Pointer Environment. The Panel will allow you to change the slowdown factor from within your speeding program without having to switch out to SuperBasic, use the extension commands, and switch back in to see if it worked. Keypress combinations can be defined with the Panel for changing the speed. You can redefine these easily if they conflict with your program.

If you multitask more than one program and only want to slow one of them down, you need to use SlowGold 2. SlowGold 2 can slow down individual jobs without affecting others running in the machine. This also works under the Pointer Environment. You can put SlowGold 2 to sleep, wake it up to change a job's speed and put it back to sleep again. It presents you with a list of jobs running, you select which one(s) you want to slowdown and by how much and it goes off and does it.

Most software runs much better with the extra speed of the Gold Card, but for those few that are now just too fast, or as a debugging tool, SlowGold is very handy. You probably won't use it alot, but every Gold Card owner should have it and for the price it is a real value (£ 5.00 plus postage and handling).

SlowGold is available from:

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BANGOR, GWYNEDD, LL57 3YT
GREAT BRITAIN

MECHANICAL AFFINITY
513 EAST MAIN STREET
PERU, INDIANA 46970
USA

OUR READERS SPEAK !!!

NEWPORT, RHODE ISLAND, USA - BOB DYL

As the publisher of IQLR, I have the opportunity to hear from a large number of QL users worldwide. I'm constantly being renewed by the encouragement and enthusiasm of QL'ers. Their loyalty and steadfastness in support of our little machines, is unmatched in the computer world (and they said the QL was dead).

DILWYN JONES COMPUTING

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QL SOFTWARE

PLEASE NOTE THE MEANING OF CODES IN SQUARE BRACKETS BELOW
[R] RAMDISK REQUIRED
[F] AVAILABLE ON FLOPPY DISK
[M] AVAILABLE ON MICRODRIVE
(NB NOW NO EXTRA CHARGE FOR SUPPLYING SOFTWARE ON MICRODRIVE)
[128K/512K] MINIMUM MEMORY REQUIRED
[PC] FOR IBM PC AND COMPATIBLES
[TK2] TOOLKIT 2 REQUIRED

CATALOGUE

PLEASE ASK FOR A COPY OF OUR QL SOFTWARE CATALOGUE. WE NOW SELL SO MANY ITEMS THAT WE CANNOT PROVIDE MUCH DETAIL IN THE ADVERT. THE CATALOGUE CONTAINS MORE DETAILS OF THE PROGRAMS AND A SAMPLE SCREEN DUMP FROM SOME OF THEM. CALL FOR A COPY, OR ASK FOR A COPY WITH YOUR ORDER. USER GROUPS - ASK FOR A PACK OF CATALOGUES FOR YOUR MEMBERS AND TAKE ADVANTAGE OF THE DISCOUNTS AVAILABLE FOR BUYING SEVERAL PROGRAMS AT THE SAME TIME!

FLOPPY DISKS & LABELS

1.5" DSDD UNBRANDED DISKS £0.40
1.5" DSDD FLOPPY DISKS £0.70
MICRODRIVE CARTRIDGES - PLEASE PHONE BEFORE ORDERING TO ASK ABOUT PRICE AND AVAILABILITY
100 DISK LABELS £2.00
100 DISK LABELS ON PRINTER ROLL £2.50
100 ADDRESS LABELS ON ROLL £2.00
100 MICRODRIVE LABELS ON ROLL £2.00
Please add £0.50 postage per roll of labels (max postage £2.50) if only ordering labels. Add £2.50 per order for floppy disks. No extra postage on microdrive cartridges.

FILE TRANSFER

DISCOVER £20.00
[F 256K] Copy files from QDOS to PC disks and vice versa. No cables required. Needs either a dual disk drive on the QL or single disk drive plus a ramdisk.
MULTI DISCOVER £30.00
[F 256K] Enhanced version, also transfers between QDOS and BBC micro DFS/ADFS formats, CPM and Unix CP/M formats. Needs either a dual disk drive on the QL or single disk drive plus a ramdisk.
TEXTIDY £15.00
Strip out control codes from Quill files and assimilate Discover with preparation of files for transfer to other computers.
OPD INTERCHANGE £15.00
File transfer utility for transferring data files and BASIC programs between microdrives on QL and ICL OPD micros. A quality program by the author of Discover

QL-PC FILESERVER £24.50
[F 128K] NEW! The latest from Di-Rem! Allows transfer of files between QL and PC's connected via a simple serial link. Wiring details supplied, or ready made cables available from TF Services. File transfer is as simple as a COPY statement if required - PC USE command allows files to be copied to a device called PCDA, PCDB (PC drive numbers) or to a PC's LPT port! Use standard QL file handling commands. This program even works on an unexpanded QL and includes software for both the QL and PC ends on disk

LEISURE

SOLITAIRE £15.00
[F M 128K] A very addictive patience (Klondike) card game. Great fun, simple to use
CRICKET SECRETARY £12.00
[F M 128K] Record, display and print cricket averages etc. For cricket buffs everywhere!
QUESTION MASTER £10.00
[F M 128K] Questions and answers, for revision or entertainment. Make your own or try our quizzes.
QUIZ SETS each £5.00
FLEET TACTICAL COMMAND II QL £49.95
[F 512K] Naval strategy game, playable on two networked QLs.
FLEET TACTICAL COMMAND II PC £69.95
[PC] Licensed PC version of this superb game. Networks to a QL via a simple serial port link (cable available from TF Services). Compatible with QL version, but some enhanced features such as improved graphics. Contact us for more details and PC requirements.
COMBINED QL & PC VERSIONS £85.00
Package deal for both QL and PC versions together. Users already with the QL version should contact Di-Rem for upgrade enquiries.
FTC2 DATA PRINT UTILITY £9.95
[F 128K] Prints out data from FTCII described above.
THE FUGITIVE £9.95
[F 512K] Text adventure game.
COCKTAILS WAITER £10.00
[F 256K] Database of alcoholic drinks recipes, hundreds of recipes supplied, more available
RECIPE SETS each £5.00

PROGRAMMING

S EDIT £20.00
[F 384K] Simple to use menu driven editor. Can be used to edit binary or plain text files, to edit or create assembler files, and so on. Block handling, word wrap, search and replace, dynamic linked list memory handling.
EASYPTR II £49.00
[F 256K] Potent environment programming aid.
EASYPTR II BUDGET VERSION £35.00
DISA DISASSEMBLER £29.00
[F 256K] Interactive pointer driven disassembler
BASIC REPORTER £10.00
[F M 128K] BASIC programming aid, list variables, etc.
BUDGET QLBERATOR COMPILER £25.00
[F M 128K] BASIC compiler suitable for use on unexpanded QL.
QLBERATOR BASIC COMPILER £30.00
[F 256K] More sophisticated version, excellent BASIC compiler for the QL.
QLOAD & QREF UTILITY £15.00
[F M 128K] QLOAD is a fast load utility for BASIC programs. QREF lists variables, procedures, etc used in BASIC programs.
MEGA TOOLKIT on disk £25.00
on EPROM cartridge and disk £40.00
Comprehensive toolkit of over 200 BASIC extensions which can be used in your BASIC programs. Can also be used in published software with no royalty payment. Covers a very wide range of subjects ask for information. Large file of BASIC demonstration routines and comprehensive manual

FILE HANDLING

LOCKSMITHE £14.95
[M 128K] Microdrive backup program, byte for byte!
AMATTER £23.50
[F M 384K] Complete software backup system. Can transfer many microdrive only programs to disk and make safety backups of protected microdrive software
TOOLCHEST £14.95
[M F 256K] Utilities and routines to allow creation of a customised microdrive doctor program, with on-line help manual. Can display microdrive information in hex and ASCII etc.
FILES2 £12.00
[F M 128K] Simple to use popup file handling utility for copying, deleting, renaming, viewing etc files. Easy to use but very powerful, everything done from menus.
FILEMASTER £12.00
[F M 512K R] For bulk copying of files, etc quickly via ramdisk. Also does simple disk labelling and files prunout
THE GOPHER £12.00
[F M 128K] File finder, searches through disk or microdrive for file containing given string.
WINBACK £25.00
[F 256K] Hard disk and ED disk backup utility for Micros and compatibles. This is version 2, able to split very large files into smaller sections on the backup floppies and join them back together later

DISPLAY SOFTWARE

BANTER £25.00
[F 512K] Banner making program. Uses outline fonts for improved print quality and smooth edges to large letters. Eight fonts supplied. Easy to use, prints to 9 pin and 24 pin Epson compatible printers and to HRS printers. Prints sideways across up to 4 pages, with up to 5 lines of large text. We use it to make banners for our stand at shows, use for advertising, notices, shops, schools, exhibitions, etc.
VISION MIXER I £10.00
[F 512K] Screen display system, use as an eye catching screen display system with QL mode 4 or 8 screens. Version 1.5 now has built in speed control for Gold Card use. Upgrade £3.00
VISION MIXER PLUS £22.50
[F 384K] Enhanced, menu driven version.
PICTUREMASTER £15.00
[F 256K] Screen drawing utility for use with Vision Mixer etc.
PICTUREMASTER PLUS £20.00
[F 384K] Enhanced version, extra features.
UPGRADE TO "PM PLUS" £5.00

PRINTER DUMPS

SIDEWINDER PLUS £24.95
[F M 512K] Screen and desktop publisher page file printer dump utility. Prints in various sizes, from very small postage stamp or label size to very large banner size which can be in strips ready to stick together later. Prints sideways, mirror, invert, mode 4, mode 8, grey shade, add text. Suitable for 9 and 24 pin printers, reconfigurable printer drivers. Prints Page Designer 2 and DTP pages. Can print to LC10 and LX80 colour printers

DILWYN JONES COMPUTING

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GRAPHICS

- THE PAINTER V4.04** £25.00
[F 512k] 100% machine code pointer driven art and graphics program by PROGS of Belgium. Can be mouse controlled. Patterns, fills, size changes, screen dumps, all sorts of facilities.
- THE CLIPART** £12.00
[F 128k] 3 disks packed full of screen pictures for use in desktop publishing and graphics programs. Ideal for use with The Painter or Image Processor or Page Designer, for example!
- QRACTAL** £20.00
[F 512k] Machine code fractals program, able to display Julia or Mandelbrot sets.
- QRACTAL SCREENS** £5.00
[F 128k] Sample screen pictures made with QRACTAL.
- IMAGE PROCESSOR 2** £15.00
[F 512k] Picture editing and creation system, image enhancement, mode conversion, touch up pictures from other sources. Can be used to tidy up screens from digitisers, for example, or just as an art and graphics program.
- PD2 CLIPART** £10.00
[F 128k] Clipart from Page Designer 2, supplied in mode 4 screens format for use with any graphics program.
- SCREENSNATCHER** £10.00
[F M 128k] Grab screen displays from within other programs for use in your own programs!
- TEXT 'N' GRAPHIX** £20.00
[F 256k] Print text files containing screen dumps, mix text and graphics in same document.
- TRANS24** £10.00
[F M 128k] Translate 9 pin graphics outputs from most programs without a 24 pin printer driver to 24 pin.

TEXT

- QTYP 2** £29.95
[F 512k] Typing and spelling checker, which uses pointer environment. 40,000 word English dictionary plus French and German dictionaries. Dictionary editor included to add your own words. SuperBASIC interface allows you to write your own BASIC programs which use QTYP.
- BIBLE TEXT DISKS, PLAIN TEXT FORMAT** £20.00
BIBLE TEXT DISKS, QUILL FILE FORMAT £20.00
[F 512k] Text of the King James Bible on disks.
- SPELLBOUND** £30.00
[F M 384k] Spelling checker which checks your typing as you type! 30,000 word dictionary, expandable.
- SPELLBOUND SPECIAL EDITION** £50.00
[F 512k] Improved version with larger 50,000 word dictionary (expandable). Check spelling as you type or check existing text files.
- UPGRADE TO SPECIAL EDITION** £30.00
Please return master disk/cartridge when upgrading.
- QUICK POSTERS** £10.00
[F M 128k] Text poster maker for use with Star LC, NL and XB printers. Current version works in pointer environment, upgrade from old version £3.00.
- ROB ROY BARGAIN PACK** £10.00
[F M 128k] See review in QL World August 1991.

DATABASES

- ADDRESS BOOK & LABEL PRINTER** £15.00
[F M R 384k] Store names and addresses and print them out on a variety of label sizes, print telephone lists, etc.
- DATA DESIGN** £50.00
[F 512k] A database which can be programmed from BASIC or machine code. Runs in pointer environment which is supplied with the program. Fast and versatile.
- FLASHBACK** £25.00
[F M 256k] Fast database written in machine code, not programmable.
- FLASHBACK SPECIAL EDITION** £40.00
[F 256k] Enhanced version of Flashback, with Report Generator, etc. NB Please advise if to be used on a Gold Card, since Report Generator requires modification.
- QL GENEALOGIST SECOND EDITION** £30.00
[F 384k] Family trees and family history program, one of our best selling programs!
- UPGRADE TO SECOND EDITION** £12.00
Please return master disk with upgrade order.
- BUDGET 128K GENEALOGIST** £12.00
[F M 128k] A can down version for unexpanded machines, still superb value for money.
- DISK INDEXER** £12.00
[F M 128k] Make a database of the contents of your disks, so that you can search for files, list them, and generally tidy up your disks and cartridges!
- DBEASY** £15.00
[F 512k] Database from end for Archive and a suite of programs called Chaos Busters!
- DBPROGS** £15.00
[F 512k] A collection of Archive utilities and text files to help you to learn to program Archive.

D.T.P.

- PAGE DESIGNER 2 PLUS** £40.00
[F 512k] QL Desktop publishing program, mix text and graphics, print pages, use graphics from other programs. Prints on most printers. Ask for information. Sadly, it has been badly delayed, so you should check with DJC first to see if available yet before ordering.
- UPGRADE TO PD2 PLUS** £20.00
Send proof of purchase of old Page Designer 2 with upgrade order. See note above re. delays.

QL HARDWARE

- MINI PROCESS CONTROLLER** £59.95
Relay switched outputs, controlled via QL serial ports.
- SOFTWARE TOOLKIT FOR MPC** £9.95
[F 128k] BASIC extensions to simplify writing programs to control the MPC.
- NETWORK PROVER** £3.50
A small box which plugs between networked QLs to give a visual indication of transmission over the network.
- QPOWER REGULATOR** £24.95

OTHER QL SOFTWARE

- QPAC1** £19.95
[F 512k] Pointer environment utilities, including calculator, calendar, alarm, typewriter, clock and system monitor utility. Pointer environments included. Quality QL software by Tony Tebb.
- QPAC2** £39.95
[F 512k] If you want to make full use of multitasking on your QL, this package is a must. Files maintenance menu, hotkeys, "rings", channels, pick, etc. Extensive documentation and a tutorial is supplied. Another Tony Tebb package.
- QTOP** £29.50
[F 256k TK2] User front end for QDOS by Cowi Electronic of Switzerland. Desktop system, file handling, job control, program startup menus, with 5 desktop accessory programs.
- PRINTERMASTER** £20.00
[F M 128k] Printer control utility - select fonts, set margins, page length and much more. Printmaster puts you in control of your printer. Not a graphics program, not a printer driver creator, just a database of printer functions with the ability to send control codes to the printer quickly and easily without having to reach for your manual. Files for several makes of printers supplied, or create your own or modify those supplied quickly and easily. In common use at DJC, that's what I think of it!
- HOME BUDGET** £20.00
[F M 128k] Domestic bills and accounts program.
- REMINO-ME** £12.00
[F M 128k] Dates reminder program. Quick and easy to use.
- REMINO-ME PLUS** £20.00
[F M 128k] Enhanced to allow more dates to be scheduled, longer event descriptions.
- SCREEN ECONOMISER** £10.00
[F M 128k] Turns off the QL display after a set number of minutes during which QL has not been used to protect the screen.
- SLOWGOLD** £5.00
[F 128k] Slowdown routine and control panel for software which runs too fast on a Gold Card or indeed on any QL system.
- TASKMASTER** £25.00
[F M 384k] Task switching utility. Enables you to conveniently switch between several programs in memory. Calculator, notepad and file handling utility included. Ideal if you want a simple to use system to let you have several programs in the computer at once and to switch between them at the press of a couple of keys. Can even save and restore the display of each program automatically.
- DISK LABELLER** £10.00
[F 256k] Prints new labels for your floppy disks, listing the filenames from the disk in columns in small print on the label. Essential starting point to tidying up your disk collection. We have sold a great deal of copies of this useful little program - have you got yours yet?
- THE CAT** £5.00
[F M 128k] List filenames from a disk or cartridge in columns to the screen or printer. The list can be sorted if required. Useful and convenient utility. Usually as a BASIC extension then just type CAT for a list of files.

THE SMALL PRINT: POSTAGE AND PACKING CHARGES Software is sent post-free to UK addresses. To other countries, please add £1.00 per program for postage and packing (sent by airmail where possible). **PRICES:** All prices are shown in UK Pounds Sterling. **PAYMENT:** We can accept payment by cheque (in UK Pounds Sterling currency only, please) drawn on UK branch of a bank or building society, by Eurocheque with card number written on the back, Postal Order, or by these credit cards: VISA, ACCESS, MASTERCARD, EUROCARD or by CONNECT card. Please state the card type, number, expiry date, your address, and sign orders sent by post. We can also accept orders paid by credit card over the telephone. There is an answering machine for when I am unable to answer in person so that I can call you back later. Goods remain the property of DJC until paid for in full. **PLEASE STATE IF YOU REQUIRE SOFTWARE ON 3.5 OR 5.25 INCH DISKS OR MICRODRIVE CARTRIDGE**

OUR READER'S SPEAK - cont'd

Frequently two re-occurring topics come up, as has been the case recently. The two areas of concern are QUILL, and SOFTWARE DOCUMENTATION/TUTORIALS (or the lack thereof). I'd like to address both of these issues.

QUILL

In two recent surveys (ours and one from the UK) the overwhelming number of users stated that QUILL was their most used software. In the early days, a company by the name of ATHENE CONSULTANTS gave us TURBO QUILL which improved the speed and (to some degree) handling of QUILL.

More recently, two massive (by Quill's standards), word processors have been developed, "PERFECTION" from Digital Precision, and "TEXT87 PLUS4" from Software 87. Both programs have been widely accepted, and each has its group of very vocal supporters. Both are of high quality, and offer the great majority of the features found in the modern word processors found in the MSDOS and Macintosh world.

PERFECTION and TEXT87 PLUS4 are by every indication, very successful software packages. But even with their success, a good number of QL'ers still prefer and use their (FREE) version of QUILL. So, what's the problem ??

The problem is that neither PERFECTION or TEXT87 PLUS4 is as easy to use as QUILL, and by QL standards both are expensive, although, compared to the number of possible sales, and the prices of comparable PC word processors, they are both a bargain.

QL users worldwide, want and need, an upgraded version of QUILL, that will take care of its inadequacies (well documented); the inability to use different fonts, the inability to properly take advantage of modern printers such as, 24 pin - bubblejet - and laser models because of its limited printer translate (10) codes, and its obsession to gobble up memory, just to name a few. QL users would like all of the above, and others improved, WHILE STILL MAINTAINING ITS EASE OF USE. While some word processors CLAIM ease of use, most would agree that NONE are as easy to use as QUILL.

If ATHENE CONSULTANTS could do their thing years ago, why can't one or more of the QL worlds programming genius's take it one step further ???? From what we hear, the effort could be quite rewarding \$\$\$\$\$\$, £ £ £ £ £ , DM DM DM DM, etc.

SOFTWARE DOCUMENTATION / TUTORIALS

The second issue, deals with software documentation, the general consensus seems to be that software producers, fall into the same pitfalls that many professional people do. That is, they seem to believe that anyone purchasing their software are at the same level of expertise as they are, WRONG.

We have a great wealth of software for the QL, and in most cases, of extremely high quality. The developers who have stayed with us, show a great love for our computers, and most cannot make a living on just supporting the QL. So you say, WHY COMPLAIN!! The reason is a simple one, many of the users buy software and then can't use it, get frustrated, don't buy any more, or even worse leave the QL scene altogether.

OUR READER'S SPEAK - cont'd

The PC world is just now able to do some of the things we've been doing for years (Multitasking, networking, just to name a few). Some of our software has been light years ahead of its time, but the documentation and lack of a simple step by step tutorial on how to use it has been lacking.

A good example is QPAC II. I'm by no means a novice, I probably fall some where in the middle of the pack, Dick Taylor (our editor) on the other hand, borders on the expert, we've both had a difficult time coming to terms with QPAC II. Everything I've read, and the experts I've talked to, didn't seem to help. The QPACER package in the QUANTA library is the best I've seen to date, but it still doesn't go far enough. How about a step by step tutorial, I'll buy it, and I'm sure many others would also.

Software documentation **MUST** be written with the novice in mind, or at least obvious to them. Software producers do not have to go through the expence of printing the tutorial, include it on the disk as an option, then advertise it's availability, I'll bet it increases software sales (at least on those packages that offer a tutorial).

It may not have been fair of me to single out QPAC II. its one that I've personally have had a problem with, but believe me, I've heard criticism of EVERY software producer, those who've gone, and those who remain. Don't shoot yourselves in the foot, write your documentation in a maner that will indear you to your customer. They may purchase even more.

(Editors Note: We would like to have your input on the subjects covered in this article, or on any subject that may be of interest to QL users.)

DIRECTORY PRINTER LISTING - CORRECTION

In our last issue (Vol. 2 issue 4) a number of typo's crept into the program listing. We inadvertantly interpreted two single quotes (' ') to be a double quote ("). We apologize the the author and our readers for any inconvienece or frustration this may have caused.

The corrections are as follows:

<u>PAGE</u>	<u>LINE</u>	<u>ITEM</u>
124	1070	" should be ' ' (two single quotes)
	1090	" should be ' ' (two single quotes)
	1140	" should be ' ' (two single quotes)
	1110	display_dir should be display _dir 1 (as in line 1150)
	11120	line number should be 1120
125	1430	IF EDF(#5) THEN EXIT loop2
	1470	in FILL\$ the ' ' should be read as quote, space, quote and not as a double quote.

Tonkins's First Computer Dictionary

License: (n.) a covenant which tells the buyer that nothing has been purchased and that no refund, support, advice, or instruction may be anticipated and that no resale is permitted. A modern way of saying "Thanks for all your money and goodbye," far less crude than "Stick 'em up" but even more effective since the purchaser will often borrow the funds requested.

Keyboard: (n.) a device used by programmers to write software for a mouse or joystick and by operators for playing games such as 'word processing.'

Increment: (v.) to increase by one, except when segments are used; then, the increase may be by sixteen unless word mode addressing is used in which case the increase is by one or two, depending on the processor and whether the address is on an even boundry or such increase causes an overflow exception processor fault, which may either cause the program to crash or decrease by a large number instead of increase, depending upon the register used and the operation being attempted.

K: (n., adj.) a binary thousand, which isn't a decimal thousand or even really a binary thousand (which is eight), but is the binary number closest to a decimal thousand. This has proven so completely confusing that it has become standard.

Monitor: (n.) a sort of television with exceptionally poor picture quality and limited to a single very local station.

Pascal: (n.) a classroom project which was released before it could be graded - probably a good idea, considering. One wishes the University had a better system of academic controls.

Operator: (n.) 1. One who has no experience with computers. 2. Any beginner, esp. one part of whose salary is paid in soft drinks and processed salted food treated with dangerous and illegal drugs or preservatives. Differs from a programmer in that a programmer will often take the dangerous and illegal drugs or preservatives directly.

PRINT_MAC TROY, MICHIGAN, USA - DON WALTERMAN

PRINT_MAC is my first C program, while not very sophisticated, it prints MACINTOSH screen files (sometimes called ReadMac files - I think ReadMac is a Macintosh program) to an HP DESKJET printer. The program has minimal error checking, and has been compiled using C68 version 3.05.

ReadMac files are compressed files, and the Mac screen is 576 by 720, thats why the program counts up to 720. It displays the line count as it decodes it. Lines that are repeating patterns (like blank spaces) decode a lot faster than lines with a mix of data.

I've also wrote a program that displays ReadMacs on the QL screen and saves to disk as QL screen dumps. Let me know if you'd like to see it (it's the method I used to get the Ollie North ReadMac with the QL ballon). *(Picture at end of this article).*

The following is the listing "PRINT_MAC" for the HP DESKJET printer:

PRINT_MAC - cont'd

```

char _PROG_NAME[] = "Print Mac";

#include <stdio.h>
#include <qlib.h>

#define ESC 27
#define FF 12

char macfile_name[50], answer, i;
unsigned short int bits, repeat_count, single_count, byte;
unsigned short int dot_column, single_byte, line_count;
long tty_wait = 0;

FILE *mac_file, *printer;

main()
{
    if((tty_wait = isatty( fileno( stdout ))) && !isnoclose( fileno(stdout )))
    {
        struct QLRECT rect;

        rect.q_width = 512;
        rect.q_height = 200;
        rect.q_x = rect.q_y = 0;
        tty_wait = getchid( fileno(stdout) );
        sd_wdef( tty_wait, -1, RED_H4, 1, &rect);
        sd_clear( tty_wait, -1);
    }

    printf("Enter the readmac file to print \n(including the device name).  ");
    scanf("%s" , macfile_name);

    if ((mac_file = fopen(macfile_name,"r")) == NULL) {
        puts("\ncan't find file...please check disk and try again\n ");
        printf("System error returned..... %d %s", _oserr, " \n");
        if(tty_wait) {
            printf("Press any key to continue\n");
            io_fbyte( tty_wait, -1, &i);
        }
        main();
    }
    fseek(mac_file,640,SEEK_SET);                /* set file pointer to start of picture data */

    printer = fopen("SER1","w");                  /* open SER1_ for printing */
    fprintf(printer,"%cts", ESC, "*b0W");          /* select full graphics mode */
    fprintf(printer,"%cts", ESC, "*t75R");          /* select 75 dpi resolution */
    fprintf(printer,"%cts", ESC, "%a0C");          /* set printer's cursor to leftmost position */
    fprintf(printer,"%cts", ESC, "%a+112H");        /* center the image on the page */
    fprintf(printer,"%cts", ESC, "*r11");          /* start printing at current printer(cursor) position */

    dot_column = 0;
    line_count = 0;

    fprintf(printer,"%cts", ESC, "*b72H");          /* print 576 dots per line (standard Mac screen width) */

```

PRINT_MAC - cont'd

```

do {
    byte = fgetc(mac_file);
    if(byte > 184 && byte < 256)
    {
        repeat_count = 257 - byte;
        byte = fgetc(mac_file);
        do {
            fputc(byte , printer);          /* this routine prints out the repeating data bytes */
            dot_column++;                    /* the first byte tells how many times to repeat the */
            if(dot_column > 71)              /* next byte */
            {
                fprintf(printer,"%cts", ESC,"*b72W");
                dot_column = 0;
                line_count++;
                update();
            }
            --repeat_count;
        } while (repeat_count > 0);
    }
    else {
        if(byte < 128)                      /* this routine prints out the non-repeating */
        {                                   /* graphics bytes. the first byte tells how many */
            single_count = 0;              /* non-repeating bytes follow */
            do {
                single_byte = fgetc(mac_file);
                fputc(single_byte , printer);
                dot_column++;
                if(dot_column > 71)
                {
                    fprintf(printer,"%cts", ESC,"*b72W");
                    dot_column = 0;
                    line_count++;
                    update();
                }
                single_count++;
            } while(single_count < (byte+1));
        }

        ) while(!feof(mac_file) && (line_count < 720)); /* jump out at end of file */
        /* the screen is 720 lines so skip the garbage */
        /* the file may have appended from the file transfer */
        if(dot_column < 72)
        {
            do {
                byte = 0;
                fputc(byte , printer);
                dot_column++;
            } while(dot_column < 72);
        }
        /* this routine finishes off whatever graphics */
        /* line is started so that the next two commands */
        /* are not mistaken for graphics data */

        fprintf(printer,"%cts", ESC,"*rB");          /* tell DeskJet end of graphics data */
        fprintf(printer,"%tc", FF);

        fclose(printer);
        fclose(mac_file);

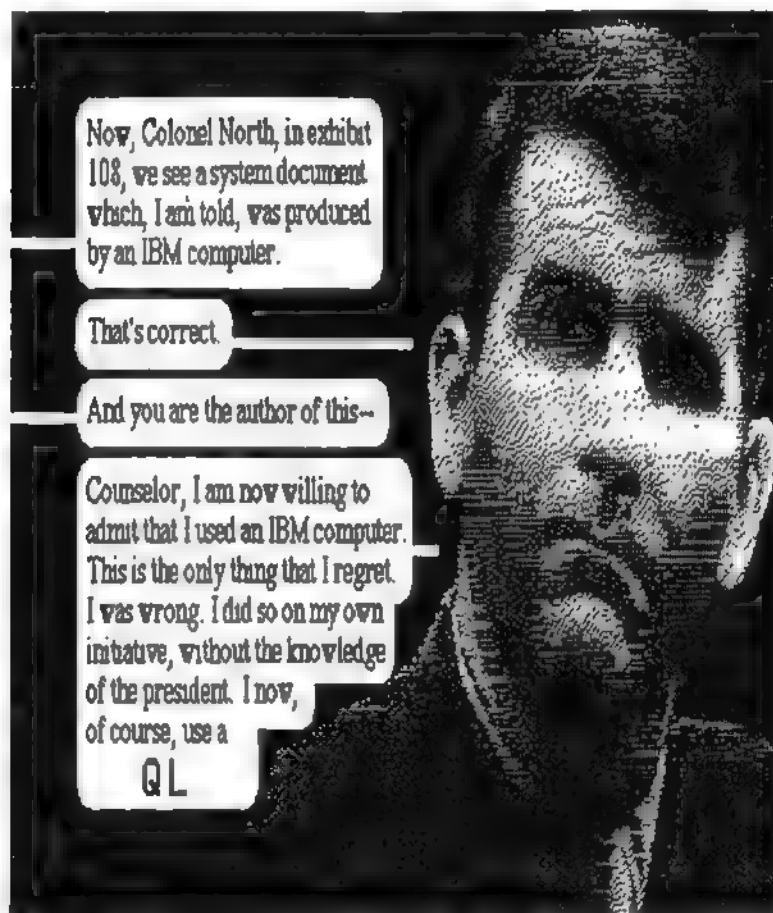
        printf("\nPrint another Readmac file ? ");
        if(getchar() == 89 | getchar() == 121)
        /* if 'y' or 'Y' start over */

```

PRINT_MAC - cont'd

```
{
main():
|
}
update()
{
sd_pisp( tty_wait, -1,10,20);
printf("printing line %d %s", line_count, "of 720 lines....\n");
}
```

If you'd like to improve PRINT_MAC or have a source for good ReadMac files I'd like to hear from you, contact me at IQLR.



<T>he <S>erial <P>ort BBS

TROY, MICHIGAN, USA - DON WALTERMAN

The Serial Port bulletin board has an active Timex/Sinclair SIG (Special Interest Group) area continuously since 1983. Recently, activity on the SIG has increased, matching the rebirth of the QL.

TSP - cont'd

The Serial Port is a pay BBS but welcomes visitors for 15 minutes a day at no charge. The charge for full access is minimal (about \$15-20 a year for 45 minutes a day), That equals about 1 international call for me.

The file area has plenty of room. Recent additions include QEM version 2.00 (includes X/Y/Z modem file transfers), Unzip and Zip release 1, ZOO version 2.1, Spectator 1.00 (the Spectrum emulator for the QL), the Spectrum emulator for MSDOS version 1.45 and DME version 1.43.1c (an editor ported from the Amiga). Other file areas of interest to QL users include a huge collection of graphics files (RLE, GIFF and READMAC).

The Serial Port has a history of supporting the Sinclair community. A few years ago an effort was made to start a Sinclair echo on FidoNet. The Serial Port was one of the BBSs that carried that echo. Unfortunately the echo did not survive in the United States. Happily there is an active Sinclair echo in Europe.

Baud rates from 14,400 to 300 are supported and is available 24 hours (except at midnight when file maintenance is taken care of). Stu Jackson is the SYSOP (*System Operator*), and would be pleased to have you stop by. There are 8 lines available. You can reach The Serial Port at:(US) 313 286 0145.

A NOTE FROM THE SYSOP Stu Jackson

Being the sysop of <T>he <S>erial <P>ort, I have been asked to detail a little bit about our system as it pertains to you the Timex/Sinclair user. First off, I have to admit, I'm not very literate on your equipment but love to sit back and watch the ingenuity put forth by you folks!

The Port has been on-line since 1983 and the Timex/Sinclair sig almost as long. For you , a new user to the system, the first thing you will see is a prompt for your FIRST and LAST name. Following that, the system will ask you what type of computer you have. Just respond with Timex and follow the prompts. After a short 'new user message' you will end up at our Main menu.

For direct access to the Timex Sig, simply hit <S>ig and then </> for the Timex/Sinclair area. From there you can receive or send messages, upload, download, read the bulletins, etc. The Port will allow new users access to any of these functions within the sig. Most areas of the system outside this area are reserved for registered users.

A couple of quick notes. The Port uses 'HOT KEYS' on all menu options. Once you get the feel of the system, you will be able to hit your selection key at any time to move you around the system. No need to wait for the menu to quit scrolling. Additional key commands common to the system:

<E>xit.	will return you to the main menu
<->Previous	will return you to the last menu
<G>oodbye	will get you to the logoff menu
<*>Time	will show how much time you have remaining
<#>Who	From the main menu will show who else is on
<S>top	during any text/file listing will abort the read
<P>ause	during any text/file listing will Pause the read

TSP - cont'd

We are currently running with 8 lines all set for 'trunk hunt'. 300 baud calls are allowed on all lines between 12:00am and 03:00pm. If this becomes a problem, we can work something out. If you find the system needs any fine tuning, please leave me a note and I will do my very best to take care of your concerns. See you on <T>he <P>ort.

A FILE PRINTER

OAK RIDGE, TENNESSEE, USA - MEL LAVERNE

This program grew out of a want for neatly paged, dated, and identified file printouts. The original version handled only SuperBasic program files. However, when the basic (no pun intended!) similarities between SBasic and text (ASCII) files became obvious, the program was expanded to include text output. The primary difference is that an arbitrary range of line numbers may be specified for a SBasic file, allowing partial output of that file.

Fil_Prntr accepts input from a device of your choice (mdv, flp, ram) and outputs to a printer. The codes used here are for an Epson compatible printer.

Output is paged, with a footer on each page giving the file name, the name, if any, of the source, current and total page numbers, and the date and time of printing.

Physical, not logical, lines are counted. The distinction is that a physical line is determined by the margin settings on the printer, whereas a logical line is an arbitrary length string terminated with an "ENTER" (or line feed). Thus, one logical line may spawn several physical lines.

```
1000 REMark Filename = Fil_Prntr   c M. E. LaVerne   28 Nov 92
```

The margins are set to give an 84 character physical line. This is quite arbitrary, except that it conveniently matches my screen width. Change to suit yourself.

```
1010 CLEAR: CLS: Right = 93: Left = 10: maxlen = Right - Left + 1
1020 :
```

The user is prompted for a number of input parameters, with suggested default values offered. If the default value is acceptable, simply press ENTER. For the most part, entries are error-trapped.

```
1030 REPEAT name
1040 INPUT 'File name: '; name$
1050 IF name$ = " THEN PRINT 'Null name not acceptable.': ELSE EXIT name
1060 END REPEAT name
1070 :
```

If an entire SBasic file printout is wanted, it is simpler to accept the default file type (T), bypassing the line number inputs. Of course, if only part of the SBasic file is required, one must specify "S" and give initial and final line numbers.

FILE PRINTER - cont'd

```
1080 REPEAT FilTyp
1090 INPUT 'File type: SuperBasic (S) or Text (T) ? [Default = T] '; type$
1100 IF type$ = " THEN type$ = "T"
1110 IF type$ = "S" OR type$ = "T" THEN EXIT FilTyp
1120 END REPEAT FilTyp
1130 :
1140 IF type$ = "S" THEN
1150 INPUT ' First line number ? [Default = 1] '; first$
1160 IF first$ = " THEN first$ = '1'
1170 INPUT 'Last line number ? [Default = 32767] '; last$
1180 IF last $ = " THEN last$ = '32767'
1190 END IF
1200 :
```

Input is accepted from floppy or ram disk or microdrive. It is assumed that you have not more than four floppies and/or two microdrives. For ram disk, use any reasonable value.

```
1210 REPEAT in_dev
1220 INPUT 'Input device ? [Default = flp1_] '; dev$
1230 IF dev$ = ' THEN dev$ = 'flp1_'
1240 d3$ = dev$(1 TO 3): d4$ = dev$(4)
1250 IF d3$ = 'flp' THEN IF d4$ > 0 AND d4$ < 5 THEN EXIT in_dev: END IF
1260 IF d3$ = 'mdv' THEN IF d4$ > 0 AND d4$ < 3 THEN EXIT in_dev: END IF
1270 IF d3$ = 'ram' THEN EXIT in_dev
1280 END REPEAT in_dev
1290 filename$ = dev$(1 TO 4) & '_' & name$
1300 :
1310 REPEAT out_style
1320 INPUT 'Draft (D) or NLQ (N) output ? [Default = NLQ] '; out$
1330 IF out$ = ' THEN out$ = "N"
1340 IF out$ = 'D' OR out$ = 'N' THEN EXIT out_style
1350 END REPEAT out_style
1360 :
```

I have found that 55 lines with a footer gives reasonable top and bottom margins. If you want to risk more lines, go ahead. The program will do no more than mildly chide you.

```
1370 INPUT 'Lines per page ? [Default = 55] '; lines$
1380 IF lines$ = ' THEN lines$ = '55'
1390 IF lines$ > 55 THEN PRINT 'Caution: '; lines$; ' lines may cause page overrun.'
1400 :
1410 OPEN_IN #5, filename$
```

Find the first requested line in a SBasic file or the initial line in a text file.

```
1420 IF type$ = "S" THEN
1430 REPEAT first
1440 get_line num$, a$
1450 IF num$ >= first$ THEN EXIT first
1460 END REPEAT first
1470 ELSE
```

FILE PRINTER - cont'd

```
1480 INPUT #5; a$
1490 END IF
1500 max_page = 0: i = 0: PRINT\Counting pages.'
```

Count pages for later use.

```
1510 REPEAT counting
1520 IF type$ == "S" THEN
1530 IF num$ > last$ THEN EXIT counting
1540 END IF
```

Here we unscramble any multiline logical lines, adding to our physical line, and possibly page, count.

```
1550 REPEAT checkline
1560 i = i+1: IF i = lines$ THEN max_page = max_page+1: i = 0
1570 IF LEN(a$) > maxlen THEN
1580 a$ = a$(maxlen+1 TO)
1590 ELSE
1600 EXIT checkline
1610 END IF
1620 END REPEAT checkline
1630 IF EOF(#5) THEN EXIT counting
```

Get the next logical line, if any.

```
1640 IF type$ == "S" THEN get_line num$, a$: ELSE INPUT #5; a$
1650 END REPEAT counting
```

If the line count <> 0 here, we have a partial page; count one more.

```
1660 IF i THEN max_page = max_page + 1
1670 CLOSE #5: PRINT\Total pages = '; max_page
```

One last chance to change your mind; otherwise, print it.

```
1680 PRINT 'Press ESC to quit, any other key to print file'
1690 to_do$ = INKEY$(-1)
1700 IF CODE(to_do$) <> 27 THEN
1710 OPEN_IN #5 , filename$: set_printer
1720 ELSE
1730 BEEP 10000,5: STOP
1740 END IF
1750 REPEAT first
1760 IF type$ == "S" THEN get_line num$, a$: ELSE INPUT #5; a$: EXIT first
1770 IF num$ >= first$ THEN EXIT first
1780 END REPEAT first
1790 page = 0: now$ = DATE$: i = 0
1800 ident$ = 'File: ' & name$ & ' on ' & where$
1810 REPEAT out
1820 IF type$ == "S" THEN IF num$ > last$ THEN EXIT out: END IF
```

FILE PRINTER - cont'd

```
1830 REPEAT checkline
1840   i = i+1: Print_Line a$
1850   IF i = lines$ THEN page = page + 1: footer page: i = 0
1860   IF a$ = '' THEN EXIT checkline
1870 END REPEAT checkline
1880 IF EOF(#5) THEN EXIT out
1890 IF type$ == "S" THEN get_line num$, a$: ELSE INPUT #5; a$
1900 END REPEAT out
1910 IF i THEN footer page + 1
1920 CLOSE #5: BEEP 10000,10
1930 :
1940 DEFINE PROCEDURE set_printer
1950 OPEN #3; prt1: BPUT #3, 27,77, 27,88,Left,Right
1960 IF out$ == "N" THEN
1970   BPUT #3, 27,120,1, 27,107,0
1980 ELSE
1990   BPUT #3, 27,120,0
2000 END IF
2010 END DEFINE set_printer
2020 :
2030 DEFINE PROCEDURE get_line(num$, a$)
2040 LOCAL n, loop
2050 INPUT #5, a$: n = 1: num$ = ''
2060 REPEAT loop
2070   IF a$(n) = '' THEN RETURN
2080   num$ = num$ & a$(n): n = n + 1
2090 END REPEAT loop
2100 END DEFINE get_line
2110 :
2120 DEFINE FUNCTION where$
2130 LOCAL name$, out_name$
2140   name$ = dev$ & 'dir': DELETE name$
2150 OPEN_NEW #7; name$: DIR #7; dev$: CLOSE #7
2160 OPEN #7; name$: INPUT #7; out_name$: CLOSE #7
2170 DELETE name$: RETURN out_name$
2180 END DEFINE where$
2190 :
2200 DEFINE PROCEDURE Print_Line(x$)
2210 IF LEN(x$) > maxlen THEN
2220   PRINT #3; x$(1 TO maxlen): x$ = x$(maxlen+1 TO)
2230 ELSE
2240   PRINT #3; x$: x$ = ''
2250 END IF
2260 END DEFINE Print_Line
2270 :
2280 DEFINE PROCEDURE footer(page_num)
2290 PRINT #3\ident$, 'Page '; page_num; ' of '; max_page, now$, CHR$(12)
2300 END DEFINE footer
```


FILENAME EXTENSIONS

BANGOR, GWYNEDD, GREAT BRITAIN - DILWYN JONES

You may have noticed that most software authors use filenames ending with "_BAS", "_OBJ", "_BIN", or other three or four character endings, and wondered as to the significance.

You already know that "_DOC" is the suffix used by Quill for its text files, while Archive uses "_DBF" for its files. They are used in order to identify the files, and to make them easy to spot in a long list of files. There are no hard and fast rules as to what is used in most cases (you don't have to use "_DOC" for Quill text files, you can type in your own three character ending if you like). Here is a short list of the most common naming conventions and purpose. It is useful to add them to the end of the name, since they're easy to spot and are not easily mistaken for directory names in that position. (*Ed Note: this also allows directory listings of only specific types of files, such as listing only the database files*).

_BAS	SuperBasic programs
_BIN	Machine Code files
_ASM	Assembler source code text file
_OBJ	Qliberator compiled programs (_OBJ stands for OBJECT)
_TASK	Turbo compiled programs
_REXT	Runtime extensions (a set of Keywords for SuperBasic)
_EXTS	SuperBasic extensions (new Keywords, usually in Toolkits)
_EXC	or _EXE Programs you can start with EXEC or EXEC_W
_TXT	Plain text (also referred to as ASCII text) files
_PAGE	A page from a Desktop Publishing program
_FNT	or _FONT A display font for the QL
_CDE	or _CODE machine code or SuperBasic extensions
_SAV	Fastload Basic programs, usually made with QLOAD
_DAT	Data files, or printer drivers
_T87	or _T91 etc., Text87 files
_SCR	or _SCN QL screen picture files
_COM	Compressed files (<i>also _ARC</i>)

Remember the above are not hard and fast uses, you can use what you like. They are examples of what I have come across, and they may help you spot what sort of file each one is at a glance when you look at a DIR listing !!

ROCK-FALL - A REVIEW

C.G.H. SERVICES

CRANSTON , RHODE ISLAND, USA - A. PARKER LEWIS III

This review is of the program Rock-Fall by Andrew Toone which is called a "Boulderdash Clone". When I tried to find out what Boulderdash was I ran into a problem. I spent time in several bookstores and a library trying to find a reference to any program called Boulderdash. Finally I found a book that referenced the game in a section about Nintendo games, but all it gave was a rating, with no instruction or strategies about how to play.

ROCKFALL - cont'd

am not a games person, so when I was asked to review this game I decided to try and play the game myself and then to ask some young people to try the game and see what they thought. First of all the game is very well done, and the graphics are quite good.

The instructions are simple and to the point. The game is not easily mastered in one sitting, and sufficient difficulty to keep one working for quite some time. You may enter the game at four different levels "a", "e", "i", or "m" and then proceed from there to the next level. There are a total of sixteen different levels.

I started off by first reading the instructions. This seemed to be easy enough, except that the instructions are too simple. I think that the instructions could give more information on how to play the game, specifically on strategy, for instance; ideas on how to get from one level to another. Maybe a map of each level, or at least where the exits are from each level.

If you have a Gold Card, this game is much too fast, at least in the beginning. The SLUG command is necessary to slow down the moving miner as well as the clock. I found that SLUG 30 works well, especially in the beginning. I think that the program should have different levels of play. This should either be a long practice session or the ability to change the clock as one gains proficiency.

I tested this game with several teenagers, two sixteen year olds, one seventeen year old, and a twenty year old. After several hours of play only the seventeen year old and I were able to reach a second level of play. I reached the second level of play in the level "i" only because someone else had failed at that level. All of the young people gave up trying the game after about an hour without getting beyond level one. They became very frustrated with the game because there was no way to slow it down enough to allow them to learn how to play.

My suggestions to the makers of this game are: one, to make the game time alterable, that is to allow the game to run at various skill levels. Allow these skill levels to be user chosen. Secondly, to give in the instructions suggestions - strategies - on how to get from one level to another. Also in this section, give what to expect in each level. When going from one of the start up levels to a secondary level, one arrives there with very little time and practically no time at all to judge what is happening. This becomes very frustrating and, especially for young people, causes them to give up on the game. Most of the young people I tested this game with gave up after about an hour and didn't want to play again. I think that with the suggestion I have made, many more young people would enjoy this game. I have made some of these suggestions to these young people and they seem to whole-heartily agree with my suggestions. With these changes I think this could be a really enjoyable game. *(Ed. Note: Sounds like a perfect candidate for SLOWGOLD reviewed elsewhere in this issue).*

FILES II - File Handling Utility
SAN DIEGO, CALIFORNIA, USA - ALAN HODGE

Dilwyn Jones Computing

As a veteran of some six years of using TASKMASTER as my multitasking control software in a gradually improving hardware environment, I have had many an occasion to be thankful for it's fine characteristics. Among these, I would cite particularly the ease

FILES II - cont'd

with which one can jump around amongst the four Psion programs. These have been routinely loaded along with Speedscreen and Spellbound since I acquired sufficient RAM, and I have also appreciated the relative ease of data transfer between them using the Import and Export functions. For instance, I have routinely transferred a limited area of a large spreadsheet to Quill, then saved it as a _doc file and printed it out using condensed mode. This is convenient and saves both paper and disk space.

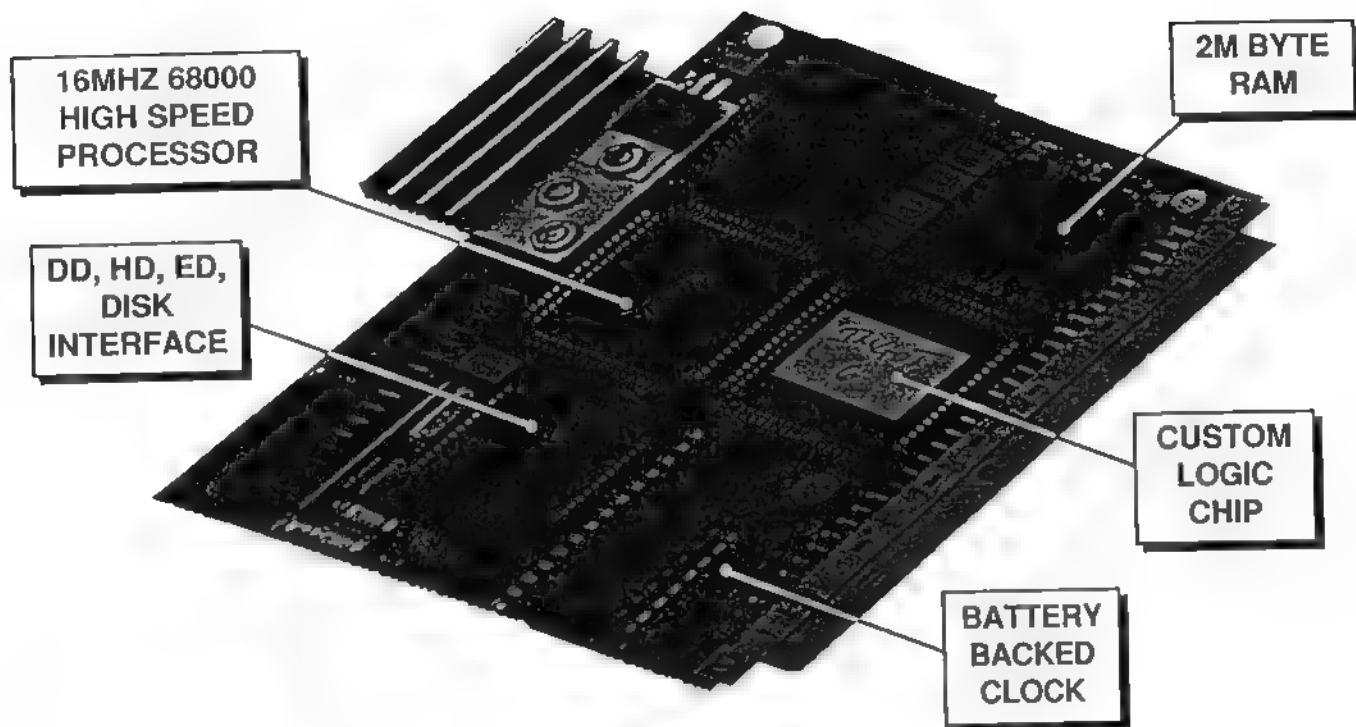
In addition to these attractive features, the showcase piece at the center of operations has always been the FILES facility with its remarkably powerful repertoire of functions relating to such essential file operations as Copy, Backup, Format, Delete, and Directory. There are also three other useful options in the original FILES utility. 'Rename a file' is a handy function in the 'housekeeping' operations necessary for good data management. 'Choose a File' is a very convenient way of loading a file, for example, into QUILL, after checking out its length as well as time and date of record. This information is not displayed in the directories provided by the Psion programs themselves. Also, the 'Add a program' option allows one to enter a new program into the <ALT F1> information box for instant access by the appropriate ALT plus numerical key method. I should add at this point, that all of the fine features of TASKMASTER with FILES and many other functions of the QL system are greatly improved by the installation of Miracle System's GOLD CARD expansion module with its improved disk interface, battery clock, greatly increased RAM and considerably higher execution speed.

Having laid the ground work with a brief review of TASKMASTER and its instantly callable <ALT F2> original FILES program, it is now time to review the many fine features of FILES II, an excellent and logical successor to the original FILES utility. It occupies about 25K of memory compared with approximately 17K for the original version, but the extra space contains a number of much improved functions, together with several new ones. An example of a greatly improved routine is the provision of a "VIEW" facility within the Directory option. Following display of the desired directory, any program on it can be listed in the window by pressing <CTRL> and the appropriate number. The listing so displayed may be scrolled with the down cursor key to its end, when it reverts automatically to the directory for further perusal or escape back to the FILES II menu. I have found the "VIEW" facility quite useful in general, and especially effective for rapid inspection of short programs such as "Boots", which tend to be rather similar. This avoids having to load them using Superbasic in order to read the individual lines.

When FILES II is called by <ALT F2>, nine options appear on the screen. Eight of these are improved versions of the options provided by the original version, but the ninth is entirely new. "COPY TO NEW NAME" provides some very useful features. Any file can be renamed, then copied to any device including the original from which it came, i.e., from which the file was copied into RAM. Thus, any number of copies of a particular file can be stored on any particular device provided each one has a different name. This option is a powerful addition to the file handling capabilities.

FILES II also has several improvements in the sometimes dreaded Second Level of operation, which is accessed by pressing F2 following selection of one of the options presented on hitting ALT F2, e.g., DIRECTORY or BACKUP. In both the old and new versions, files can be classified and segregated according to a number of criteria. In particular, files may be classified according to date and time of record, both before and after a specified date and time. They may also be selected on the basis of whether they

MIRACLE



QL GOLD CARD

£225 inc. (£200 export)

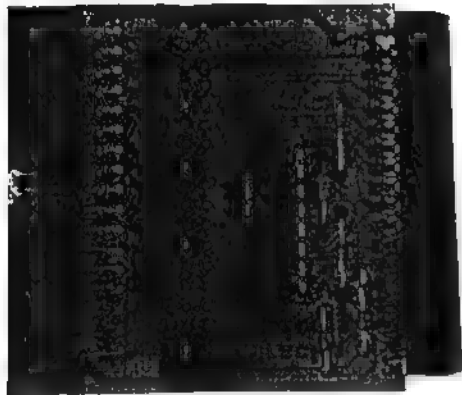
•This is the expansion that has been revolutionising the QL. It is very easy to fit - it simply plugs into the expansion port at the left hand of the QL - and once fitted it will instantly increase the execution speed of the QL by about 4 times due to the presence of a 16MHz 68000 on board. There is 2M of fast 16 bit RAM of which QDOS sees a contiguous 1920K. The remainder is used for shadowing the QL's ROM and display memory and for the GOLD CARD's own code.

There is a disk interface which can access 3 mechanisms (4 with the DISK ADAPTER) of 3 different densities, DD (double density, 720K), HD (high density, 1.44M) and ED (extra high density, 3.2M) in any mix. The disk interface connector is the same type that was fitted to the TRUMP CARD so most QL compatible disk drives can be used. Please note that DD drives still give a capacity of 720K per diskette. Our DUAL ED DISK DRIVE allows the GOLD CARD to access DD, HD and ED diskettes.

Another feature is the battery backed clock. When the QL is switched on the contents of the clock are copied into the QL's clock so that the time and date are correct. The firmware in the ROM gives the GOLD CARD all the functionality of the TRUMP CARD like TOOLKIT II and there is a sub-directory system for floppy and RAM disks.

Physically the GOLD CARD is about half the size of the TRUMP CARD and so fits almost all within the QL. Its current consumption is well under the allowable maximum so no special power supply is required. The GOLD CARD comes with a 14 day money back guarantee and a 2 year warranty.

SYSTEMS



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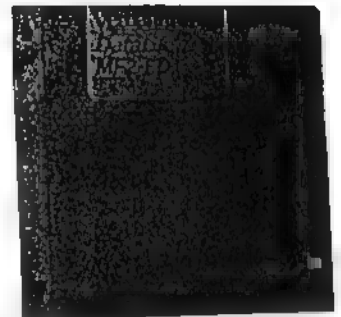
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(£155 export)**

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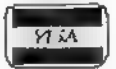
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FILES II - cont'd

contain part of a file name, a particular tag ending, including the endings for the four Psion programs, as well as whether they are executable or not. The main improvement in FILES II functions provides for two further segregative criteria, namely, whether the files were processed before or after (a) 24 hours and (b) one week relative to the time of bootup. Both are worthwhile additions to the classifications.

FILES II can run as a stand alone program, but is clearly more profitably utilized as a callable routine in a program such as TASKMASTER, where it can be quite readily substituted for the older version. It certainly is a very worthwhile update for almost all serious Sinclair QL users.

Editors Note: Files II is available from DILWYN JONES COMPUTING (see their advert elsewhere in this issue) or from dealers who carry DJC software. The price for this MUST HAVE program for user's of Taskmaster is £ 12.

TRANSLATION OF SUPERBASIC TO FORTRAN 77 THETFORD, NORFOLK, GREAT BRITAIN - W. GERAINT JONES

As a gentle introduction, let me tell you how I came to write this article/note/letter, call it what you will! Earlier this year I received a phone call from, as he explained, Bob Dyl the publisher of IQLR concerning the QLEA ROM switch. Having got over the surprise of receiving a call from the U.S.A., we exchanged some information about each other and reached an agreement over a ROM switch. A week or so later Bob called again to say how impressed he was with the switch and during the conversation he talked me into writing something for IQLR.

As I have been using FORTRAN for some twelve years now, and am currently writing a new graphics package for the QL, I decided to give FORTRAN on the QL some exposure.

Why FORTRAN? Well it is a number crunching language, hence the name FORMula TRANslation, that not only precedes BASIC but was also a forefather to it. Further to this the similarities between it and SuperBASIC are quite striking, thus making the translation from one language to the other fairly straight forward. There are of course differences between the languages and I shall deal with those as they arise in later articles.

Why bother translating? It can't just be for the speed of a compiled language, can it? Isn't 'Turboed' or 'Liberated' SuperBASIC fast enough? These are all valid questions, and no the reason for translating is not just the extra speed (FORTRAN is faster than compiled SuperBASIC), there are other benefits for example:-

- 1) The increase in numerical precision available, single precision gives some 7 digits, while double precision gives a full 16 digits.
- 2) A direct result of this is a decrease in the effects of 'round off' and 'truncation' errors - which can be of significance in repetitive calculations.

FORTRAN 77 - cont'd

So having made the decision to translate what major problems are likely to besiege the translation process. Surprisingly the main problem is not one of the general syntax, or the variable types, but the so called KEYWORD's. SuperBASIC is, as I am sure everyone is aware littered with them, as unsurprisingly is FORTRAN. Fortunately for us a great number of SuperBASIC keyword have a corresponding FORTRAN keyword, for example:

Description	SuperBASIC	FORTRAN
Loop primitive	FOR	DO
Array declaration	DIM	DIMENSION
Function declaration	DEFine FuNction	FUNCTION
Procedure declaration	DEFine PROCedure	SUBROUTINE

and so on. The problems are the keywords that do not have FORTRAN equivalents e.g. INKEY\$, KEYROW, ARC_R and LINE_R to name just a few. It is therefore my intention to help the user through the translation process by, either giving the FORTRAN equivalent to SuperBASIC, or where necessary generating the required code as either a FORTRAN function or subroutine.

Before I get started on the implementation of certain routines, I should really describe my system and the software used. My system consists of the following components:-

- 1) A QL with 640K of memory (Miracle Expander RAM).
- 2) Twin NEC 3.5" drives with Micro Peripherals Disk Interface.
- 3) A 192K EPROM board fitted with TKII (2.10) and FORTRAN PRL (1.51).
PRL - Prospero Runtime Library.
- 4) FORTRAN 77 compiler by Prospero Software (1.11).
- 5) GST linker.
- 6) QD4 running under the pointer environment.

Prospero FORTRAN 77 is a full implementation of the language, adhering closely to the ANSI standard X3.9-1978. It has a number of QL specific extensions for dealing with text and graphics etc., these will be detailed as and when they arise.

It is not my intention to teach FORTRAN programming, but merely to supply a 'library' of routines that can be used to ease the translation process - as such I shall not explain the meaning of the FORTRAN statements, although, in view of the close similarities in the languages, I suspect this will be self evident.

I shall start with the easy ones, namely the more general mathematical functions. Listed below are the more common SuperBASIC mathematical functions and their FORTRAN counterparts:-

SuperBASIC	FORTRAN	Description
+	+	Addition a+b
-	-	Negation or subtraction -a, a-b
*	*	Multiplication a*b
/	/	Division a/b
^	**	Raise to the power $a^b = a^{**}b$
(...)	(...)	Expression in brackets (a+b)

FORTRAN 77 - cont'd

ABS	ABS	Absolute value of an expression
ACOS	ACOS	Arccosine of an expression
ACOT	-	Arccotangent of an expression
ASIN	ASIN	Arcsine of an expression
ATAN	ATAN	Arctangent of an expression
COS	COS	Cosine of an expression
COT	COT	Cotangent of an expression
DEG	-	Convert an expression in radians to degrees
DIV	-	Carry out integer division
EXP	EXP	Exponential of an expression
INT	INT	Convert expression to integer
LN	LOG	Natural logarithm of expression
LOG10	LOG10	Common logarithm of expression
MOD	MOD	Modulus of two expressions
PI	-	Value of π
RAD	-	Convert an expression in degrees to radians
RND	RANDOM	Random number
SIN	SIN	Sine of an expression
SQRT	SQRT	Square root of an expression
TAN	TAN	Tangent of an expression

I have deliberately omitted the functions concerned with bit operations, they are however not forgotten and shall be dealt with at a later date. The obvious differences are the lack of the functions ACOT, DEG, DIV, PI and RAD. These are quite straight forward and can be implemented as follows:-

```

      FUNCTION ACOT(cotan)
C
C Function to return the arccotangent
C
      acot = ATAN(1.0/cotan)
      RETURN
      END

      FUNCTION DEG(rads)
C
C Function to convert an angle expressed in radians to
C degrees.  $2\pi$  radians = 360 degrees
C
C Therefore 1 radian =  $360/2\pi = 180/\pi = 57.29577951$  degrees
C
      deg = rads * 57.29577951
      RETURN
      END

      FUNCTION DIV(anum,adiv)
C
C Function to return integer dividend of anum/adiv

```

FORTRAN 77 - cont'd

```
C
      div = AINT(anum/adiv)
      RETURN
      END

      FUNCTION RAD(degs)
C
C Function to convert an angle expressed in degrees to
C radians. 360 degrees =  $2\pi$  radians
C
C Therefore 1 degree =  $2\pi / 360 = \pi / 180 = 0.01745329252$  radians
C

      rad = degs * 0.01745329252
      RETURN
      END

      FUNCTION PI(idum)
C
C Function to return the value of  $\pi$ 
C FORTRAN has no internal function to determine  $\pi$ , so the
C value given here is taken from a scientific calculator,
C 10 significant figures should suffice in the majority of
C calculations.
C

      pi = 3.141592654
      RETURN
      END
```

In reality these functions are hardly worth the effort of coding unless they are going to be used extensively.

If we now look at the SuperBASIC functions/procedures involved with memory examination/modification, we find that PEEK, PEEK_W, PEEK_L, POKE_W and POKE_L are missing in FORTRAN. The function IPEEK is implemented in FORTRAN as a QL specific extension, however, this differs from the SuperBASIC function PEEK, in that it returns the byte in its two's complement form, i.e. a number between -128 and 127, rather than a number between 0 and 255 as returned by PEEK. In order to ease translation between the two languages and maintain the user interface, I have generated a new FORTRAN function called PEEK that mirrors the operation of the SuperBASIC function PEEK.

The function does this by adding 256 to the value returned by IPEEK if it is less than zero.

```
      FUNCTION PEEK(iaddr)
      INTEGER*1 IPEEK
C
C IPEEK returns a value between -128 and 127, so 256 is
C added to the value if it is less than 0
C
```

FORTRAN 77 - cont'd

```
peek = IPEEK(iaddr)+(IPEEK(iaddr) .LT. 0)*256
RETURN
END
```

In the case of PEEKW the low byte is converted to a value between 0 and 255, this value is then multiplied by 256 and the converted byte value at the high address is then added to it.

```
FUNCTION PEEKW(iaddr)
INTEGER*1 IPEEK
C
C IPEEK returns a value between -128 and 127, so 256 is
C added to the value if it is less than 0
C
C The word value returned is given by the following
C expression
C
C      word = byte_0 * 256 + byte_1
C      peekw = (IPEEK(iaddr)+(IPEEK(iaddr) .LT. 0)*256)*256
*      +IPEEK(iaddr+1) +(IPEEK(iaddr+1) .LT. 0)*256
      RETURN
END
```

PEEKL differs again in that each of the converted bytes returned by IPEEK is multiplied by an appropriate factor 16777216 (256³), 65536 (256²), 256 or 0 and to the previous sum.

```
FUNCTION PEEKL(iaddr)  INTEGER*1 IPEEK
C
C IPEEK returns a value between -128 and 127, so 256 is
C added to the value if it is less than 0
C
C The longword returned is given by
C
C      long word = byte_0 * 16777216 + byte_1 * 65536 +
C                  byte_2 * 256 + byte_3
C
C      lword = 0
C      DO 1 i = 0,3
C          ibyte = IPEEK(iaddr+i)+(IPEEK(iaddr+i) .LT. 0)*256
C          lword = lword+ibyte*256**(3-i)
1      CONTINUE
      peekl = lword
      RETURN
END
```

The SuperBASIC procedure POKE has been implemented in FORTRAN as a subroutine and is called using the following statement:-

```
CALL POKE(iaddr,ibyte)
```

FORTRAN 77 - cont'd

where iaddr is the address of the memory location to be poked with the byte value ibyte. The implementations of POKE_W and POKE_L are as follows:-

```
      SUBROUTINE POKEW(iaddr,iword)
C
C Create the low byte and poke it into memory
C
      ibyte = iword/256
      CALL POKE(iaddr,ibyte)
C
C Create the high byte and poke it into memory
C
      CALL POKE(iaddr+1,iword-ibyte*256)
      RETURN
      END

      SUBROUTINE POKEL(iaddr,lword)
      long = lword
C
C Extract each byte in order from low to high and poke into
C the appropriate memory location
C
      DO 1 i = 0,3
          ibyte = long/(16**(6-i*2))
          CALL POKE(iaddr+i,ibyte)
          long = long-ibyte*16**(6-i*2)
1      CONTINUE
      RETURN
      END
```

In this article I have shown how some of SuperBASIC's procedures and functions can be implemented in FORTRAN, while still retaining the same functionality and user

interface. In the next issue I will start translating some of SuperBASIC's set structures e.g. REPEAT/END REPEAT, FOR/END FOR, DEFINE FUNCTION/PROCEDURE.

QPAC II - OPTIMAL CONFIGURATION **BEBENNO, ITALY, - EROS FORENZI**

In today's world, QPAC II is the QL's "de facto" version of Windows 3, and has been since QRAM, (QPAC's predecessor) first appeared.

QPAC II's history has been a little like Windows 1 and 2, for PCs and compatibles. First of all, a revolutionary program was released, and a few people started using it on a daily basis. Slowly it gained acceptance among expert users. Programmers started writing according to the new rules/concepts, and finally, a new version with all the bells and whistles was launched. In the twinkling of an eye, it became widely accepted, even by beginners.

The story above is Windows 3's story, not QPAC II's, but our little duck should have followed (on a smaller scale) the success of Microsoft, and in some ways it has.

QPAC II - cont'd

Memory was a precious resource in the recent past. Just think back to 1988, ram chips were expensive and hard to come by. PC's had 512K and some even had 1 Mbyte. Our QL's had 128K, 256K, 512K, and 640K. Windows was memory hungry from the beginning, while QRAM was not. Windows could not run at its best because of ram scarcity. The popularity of QRAM, on the other hand, was mainly slowed by lack of competent reviews. *ED. NOTE: QPAC II'S documentation didn't help.* There was also the problem of speed.

Try running Windows 3 on anything slower than a 16 MHz 386SX. It's irritatingly slow. QRAM and QPAC II on the other hand, are not THAT slow, even on a bog standard 640K QL. Yet, they get a complete facelift as soon as you plug in a Gold Card. The same for Windows 3, only if you call upgrading to a 486 a "facelift".

In the past a 386 PC was a luxury, and the Gold card was still a forthcoming "MIRACLE". Then finally, the hard disk. A necessity in the PC world, you simply can't think of anything smaller than a 80 MEG hard drive. Try running Windows 3 and related applications with a 40 MEG hard drive, if you dare! QL hard disks are neither big nor widely used. QPAC II is really a must. Your enjoyment of it will increase with a hard drive, but it can be used with just one 720K disk drive. Try that with Windows, any version.

As additional memory became more available, Windows requirements increased accordingly. QPAC II's requirements remained constant, despite the increased ram of the Gold Card. Today a basic PC has a minimum of 2 megs of ram, and can be expanded at very low cost to 4, 8, 16 megabytes and even more (these figures remind me of the early eighties, when memory was counted in Kbytes, not in Megabytes)! Windows 3 requires at least 4 Mb of ram to work decently. Anyone with that much or more ram will probably have no problems running Windows because they have the horses. This is not the case with QPAC II. Many QL'ers who use QPAC II, are unhappy because it's slow and that it doesn't leave enough free ram for applications, usually admit to having only 640K of internal ram and one 720K diskdrive (not the optimum system). You can't blame QPAC

II if you don't have the hardware to run it. Look at the PC world. Windows 3 requires a hard disk of at least 40 Mbytes just to install and start it, also needed is at least 2 megs of ram, and a 16 MHz 80386SX processor. QPAC II is happy with much less, but not 'SO' much less. Try it with a Gold Card and 3.2 Mb drives, or a QL hard disk and you'll literally see things fly. Yes, with such a system you can easily outperform even a 25 MHz, 80386DX running Windows 3. The moral is: "If you want to ride, you must have the horses", but what are the QL's horses?? Following is a table with a number of different QL setups, from the humblest to the highest. Please note that at least one 720K disk drive is required, QPAC II is not sold on microdrive cartridges. The following table is based on personal experience. and may be helpful in upgrading your system to capitalize on the advantages of using QPAC II:

QL SETUP

QPAC II RATING

QL with 256K

QPACII does not run

QL with 384K

QPAC II runs, but is not practical.

QL with 512 640K slow ram

Base level, performance below standard.

QPAC II - cont'd

QL with 640K fast ram (e.g. SuperQboard, Thor 1)	Base level, performance just acceptable
QL with 896 fast ram	Base level, performance good
THOR XVI	Still uncertain if QPACII will run or not
QL with Gold Card 16MHz	Advanced level, performance very good
QL with Gold Card 24MHz (using magic POKE)	Advanced level, performance very good indeed.
Atari ST/QL with 1 Mb	Base level, performance quite good
Atari ST/QL with 2 - 4 Mb	Advanced level, performance very good
Atari ST/QL with Hypercache 16 MHz and 1 Mb	Base level, performance very good indeed
Atari ST/QL with Hypercache 16 MHz and 2-4 Mb	Advanced level, performance very good indeed.
Atari Mega STe with QVME QL card and 1Mb	Base level, great performance, due to higher resolution.
Atari Mega STe with QVME QL card and 2-4 Mb	Advanced level, great performance due to higher resolution.
Atari ST/QL with 25-32 MHz 68030 accelerator card	High end level, great performance
Atari TT with QVME QL card (forthcoming)	High end level, fantastic performance, due to speed, memory, and higher resolution

EXPLANATIONS:

LEVEL (base, advanced, high end): refers to the ability to run many applications at once. Think of a 512K Gold Card, it would be fast but almost of no use if you wanted to run a word processor and a graphics program at once (e.g. Text87 Plus4 and QDesign). QPAC II is a multitasking manager/front end system, so it's not of much use if it doesn't have something to manage or interact with!

PERFORMANCE (good, very good, great): speaks of the overall speed at which things happen. It depends on the clock of the processor, available ram, and the speed and capacity of the disk drives. Since hard disks are not common in the QL world (yet), they were not taken into account to compile this table. If you have one however, you can rate your QL system one step higher in both level and performance.

QPAC II - cont'd

OF GREAT IMPORTANCE:

1) QL's operating with the standard 68008 processor should install LIGHTNING SE on external eprom, it accelerates text and graphics by a good factor and is therefore highly recommended.

2) QL's with Gold Card or Atari ST/QL's should use the disk version of LIGHTNING, since it works faster than the ROM version. Yes, despite the speedier machine you already have, LIGHTNING can give an even greater improvement in text and graphics, and that should make you even happier.

3) Although you can successfully run QPAC II without a mouse (not true of Windows 3) by using the cursor keys and Enter plus Space, a QL mouse helps a lot, and makes life much easier. Go for the QIMI mouse interface or the new SERMouse software.

So far, so good. Stay with your QL and upgrade its hardware and software, you won't be sorry.

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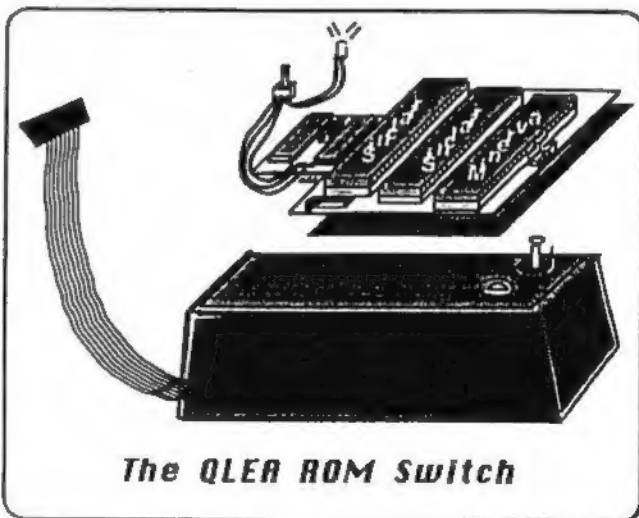
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QLEA

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The QLEA ROM Switch

There are two styles of Mark I; an internal model which fits inside the QL and consists of a fully assembled printed circuit board, a double pole switch, bi-coloured LED, wire and full fitting instructions, and an external model which is enclosed in its own case and requires no work to be done on it other than plugging its flying lead straight into the left hand ROM socket. Mark II can be supplied only in external form. Both leave room for a QIMI interface and both are fully compatible with the Miracle Gold Card. We can also supply *Minerva* at an advantageous price if bought with our ROM switch.

You can order the QLEA ROM switch either with or without the *Minerva* MK I by sending a cheque for the correct amount (DRAWN ON A STERLING BANK) to:-

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